NEWSLETTER

No. 97-1 **JAN 97**

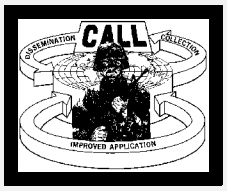
Tactics, Techniques and Procedures

from

Operation JOINT ENDEAVOR

For the Trainer Who Never Stops *Learning!*

CENTER FOR ARMY LESSONS LEARNED (CALL)
U. S. ARMY TRAINING AND DOCTRINE COMMAND (TRADOC)
FORT LEAVENWORTH, KS 66027-1350



FOREWORD

"We must be a learning organization. . . ."
- - MG William Nash, Commander, Task Force Eagle

This newsletter contains a number of tactics, techniques, and procedures (TTP) from Task Force Eagle's operations in the former Yugoslavia. Each was either submitted by a unit or soldier or observed by a member of the Center for Army Lessons Learned (CALL) Combined Arms Assessment Team (CAAT) who worked within the division either at the headquarters or with a subordinate unit. However, one of the lessons, not obvious to the reader, is the process in which each TTP was obtained.

Task Force Eagle, and its commander particularly, embraced the lesson process. It should be no wonder why there were so few incidents, resulting in death or serious injury to soldiers during the first six months of Task Force Eagle's deployment - - even though the soldiers were operating in an environment where death or injury was literally a step away. Every operation, including routine convoys and other seemingly mundane tasks, was followed by an after-action review. The TTP from the after-action reviews were documented and maintained by the unit. If the TTP was significant, it was submitted to CALL. CALL was tasked by the Commander, Task Force Eagle, to publish a lesson every 72 hours. CALL would then disseminate the TTP to every platoon-level unit in the division, including the multinational brigades attached to Task Force Eagle. The ***LATEST LESSON***, as it was titled, was also sent to units via E-mail and the Maneuver Control System (MCS).

The TTP in this newsletter can serve several purposes. Most are oriented at company and below with particular emphasis on soldier skills peculiar to the operational environment in Bosnia. Others are of value to battalions and even brigades that may be tasked to conduct an operation similar to JOINT ENDEAVOR. The subject area usually begins with a vignette that actually occurred, followed by a discussion, and then the TTP. The vignette can be used for training scenarios and the TTP can be the baseline for establishing unit standing operating procedures. What leaders should take away from this newsletter is the methodology used by Task Force Eagle to obtain and disseminate the TTP.

Clearly, the discipline and professionalism of the Task Force Eagle soldiers were the determining factors in the success of the division. Nonetheless, as a "learning organization," Task Force Eagle recognized mistakes that were made and took the necessary steps to ensure they were not repeated. That, in itself, could be the greatest TTP. ✪

EDWARD J. FITZGERALD III
COL, IN
Director, Center for Army Lessons Learned

Tactics, Techniques and Procedures (TTP) from Operation JOINT ENDEAVOR

TABLE OF CONTENTS

NOTE: **To expedite reference, following is the level of interest:**
SL = SKILL LEVEL I; SQD = SQUAD LEVEL; PLT = PLATOON LEVEL;
CO = COMPANY LEVEL; BN/BDE = BATTALION/BRIGADE LEVEL.

The Secretary of the Army has determined that the publication of this periodical is necessary in the transaction of the public business as required by law of the Department. Use of funds for printing this publication has been approved by Commander, U. S. Army Training and Doctrine Command, 1985, IAW AR 25-30.

Unless otherwise stated, whenever the masculine or feminine gender is used, both are intended.

LOCAL REPRODUCTIONOF THIS NEWSLETTER IS AUTHORIZED AND ENCOURAGED!

NOTE: ANY PUBLICATIONS REFERENCED IN THIS NEWSLETTER (OTHER THAN THE CALL NEWSLETTERS), SUCH AS ARS, FMS, TMS, MUST BE OBTAINED THROUGH YOUR *PINPOINT DISTRIBUTION SYSTEM* .

COMBINED ARMS CENTER
Assistant Deputy Chief of Staff for Training, TRADOC
Brigadier General Stanley F. Cherrie

CENTER FOR ARMY LESSONS LEARNED
Director
Colonel Edward J. Fitzgerald III
Managing Editor
Dr. Lon R. Seglie
Editor plus Layout and Design
Mary Sue Winneke
Project Manager
CPT Fred Johnson
Authors
LTC David Fastabend, B-H CAAT
LTC Jeffery Leser, B-H CAAT
MAJ Lynda Lamitie, B-H CAAT
MAJ Mark Dickens, CALL
MAJ Paul Rivette, CALL
CPT Robert Murphy, CALL
CPT Fred Johnson, CALL

CHAPTER I
MINES, BOOBY TRAPS, FIELD EXPEDIENTS, AND MINE CLEARANCE

A. MINE STRIKES/DETONATIONS.

MINE STRIKE I

SITUATION: An MP HMMWV ran over a land mine near the SAVA River. One soldier was seriously injured when the mine exploded under the vehicle. The soldier was quickly evacuated to the MASH unit north of the river and received immediate medical care.

DISCUSSION:

- **The patrol became misoriented and got off the approved route.**
- **The patrol didn't verify its location by map analysis or "Slugger."**
- **The side route the patrol was traveling was covered with snow and had no tracks on it.**
- **The side route was narrow with steep side slopes, making it impossible to turn around.**
- **The patrol had lost communications with higher HQ.**

☛ **TTP!!!** ***Positional awareness is vital for maneuver in high mine threat areas.***

☛ **TTP!!!** ***Complete dissemination of known obstacle data is a precondition for maneuver in high mine threat areas.***

☛ **TTP!!!** ***When you momentarily lose track of where you are, immediately stop and verify your location (use a GPS instead of driving around looking for a known point).***

☛ **TTP!!!** ***Maintain communications with higher HQ.***

☛ **TTP!!!** ***Untravelled routes (no snow tracks) that are not easily bypassed are very high threat minefield locations. Backing out, however difficult, is better than proceeding forward into a high minefield threat area.***

More Observations from the Landmine Incident

- **Although the blast from the landmine effectively destroyed the HMMWV, soldier injuries were mitigated because they were all wearing their Kevlar vests and helmets with chinstraps fastened.**
- **The soldiers reported being thrown violently inside the vehicle, with heads banging on the dashboard and the frame of the vehicle.**
- **The force of the blast bruised their upper torsos.**

☛ **TTP!!!** ***Doctors assessed that their Kevlar vests and helmets were the primary reason the soldiers weren't much more seriously injured.***

☛ **TTP!!!** ***After the incident, the soldiers credited their mine awareness training with enabling them to react properly and exit the minefield without further injury.***

MINE STRIKE II

- **A Swedish APC hit an AT mine; the detonation was at the left rear and injured six soldiers, two seriously.**
- **A Swedish APC was traveling on the primary path of a cleared route.**
- **Some of the internal ammunition load in the APC detonated; the track and some of the road wheels were destroyed.**
- **The soldiers were observing from open hatches. One soldier was thrown clear.**

☛ **TTP!!!** ***UN experience has been that open hatches generally minimize overpressure and other negative effects of mine blast.***

- **Response to the mine strike to include organization of the scene and MEDEVAC was excellent.**

MINE STRIKE III

- **A Bradley Infantry Fighting Vehicle struck an anti-tank (AT) mine on a road previously cleared by VRS soldiers.**
- **The BFV suffered a damaged track and road wheels.**
- **The VRS unit that cleared the road had reported that the road had been muddy when they cleared it, and they could not locate two mines. Civilian vehicles were seen using the road safely.**
- **The road had not been proofed or cleared by U.S. forces.**
- **During subsequent investigation of the site by a Serb-U.S. team, soldiers were careful to stand in their vehicle tracks.**

Just prior to departure, a U.S. officer stepped backwards, out of the vehicle track (6-8 inches). He detonated a PMA-3 antipersonnel mine and fell on a live TMM-1 AT mine which did not detonate.

- **Combat lifesavers and other individuals on the scene carefully isolated the soldier from further injury and organized a rapid casualty evacuation.**

☛ **TTP!!!** ***Constant situational awareness is key in a mined area. Assurance of clearance by one of the factions is not a guarantee of safety, particularly near the line of confrontation, where the ground has exchanged hands several times.***

MINE STRIKE IV

SITUATION: A tank platoon encountered a mined area. Attempting to turn around, the lead tank was making a wide turn when it struck two AT mines -- one with each track. Two additional, adjacent AT mines detonated. Although the tank was heavily damaged, the crew only suffered shock and minor shrapnel injuries to the Tank Commander. The additional mine detonations may have been caused by overpressure and sympathetic detonation.

An alternate explanation could be the practice of "daisy-chaining" mines by connecting them with detonating cord. Former Warring Factions (FWFs) frequently did this to ease in minefield clearing.

☛ **TTP!!!** ***When in doubt in the vicinity of mined areas, back vehicles in their own tracks rather than attempt to make wide turns.***

MINE DETONATION

SITUATION: Faction clearing teams, followed by U.S. clearing teams, had cleared a route from both directions up to their perceived boundaries, but departed, leaving a 100-meter uncleared gap. An M1 with mineroller punched through the gap to the Muslim side, and then carefully backed through its own tracks. The CEV then followed the exact tracks of the M1/mineroller to the Serb side, striking an AT mine. The AT mine damaged the CEV track and bumper spring; no personnel injuries were sustained. The crew remained mounted until properly evacuated.

● ***Subsequent investigation determined that this mine was one of three (type TMA-4) diagonally buried across the road. The mineroller "dogbone" had knocked the fuze off the center mine. The other mine had been crushed by the two passes of the M1/mine roller , three M2 passes and three M113 passes -- without detonation.***

Mineroller

● **On the third pass over a hard-packed soil surface, a M1 tank with mineroller detonated an AT mine. No damage to the mineroller or injury to personnel.**

☛ **TTP!!!** ***Mines deteriorate over time and perform unpredictably. One-hundred percent "proofing" of a lane is generally not feasible short of complete physical examination of soil to buried mine depth.***

MINE AWARENESS

● **The Russian Brigade assigned to Task Force Eagle experienced two mine incidents. Thankfully no one was injured.**

✔ **A BTR-D was moving on a well-traveled, hard surface road and struck a buried AT mine. The road had recently thawed and the mine was located on the side of the road that had been covered in snow. Significant damage was done to the vehicle, but the soldiers escaped serious injury.**

✔ **An engineer unit, conducting mine-clearing operations, hit a trip-wire to an anti-personnel mine.**

● ***The mine was launched into the air, but did not detonate.***

☛ **TTP!!!** ***Soldiers were well-dispersed and took appropriate action when the mine was triggered.***

● **These incidents highlight the need for constant Mine Awareness. Always review your unit Mine Awareness Procedures. Be Mine Aware!**

MINE STRIKE V

DISCUSSION: An FWF work party, with possibly some civilian participation, was clearing mines and filling in a trenchline that was once occupied by an FWF during the war. One FWF had not obtained mine data information from another FWF. However, there were mine warning signs written in Cyrillic pointing toward the area that was being cleared. The area was being cleared in preparation for an upcoming celebration and was not observed by TFE forces. While clearing the area, a soldier stepped on or tripped a PROM-1 (Bouncing Betty), killing two soldiers and wounding nine others. The large number of casualties can be attributed to soldiers filling in the trenchline in proximity of the detonation. As a result of the mine explosion, dry grass surrounding the area ignited, causing two other mines within several meters of one another to explode.

Extremely hot temperatures, such as those produced by fire, can cause live, emplaced mines to explode.

☛ **TTP!!!** ***As the season changes and temperatures warm, locals burn dry grassy areas to aid in future growth and to clear mines. This can be dangerous for soldiers along roads and at checkpoints.*** **Soldiers should be aware, and stay clear, of locals burning dry grass along roads and checkpoints.**

MINE STRIKE VI

SITUATION: A vehicle struck an anti-personnel mine. The strike occurred after the vehicle made a wrong turn during a routine movement. The element consisted of one vehicle and two personnel. No one was injured, but the rear tires were punctured rendering the vehicle inoperable. After checking the grid with a Global Positioning System (GPS), it was determined that the vehicle was in minefield No. 2903. The officer in charge decided to remain in place and call his higher headquarters. He could not effect contact on the command net, but was successful using the MEDEVAC frequency. The report was forwarded to the brigade tactical operations center (TOC). It was decided not to attempt extraction of the personnel during the hours of darkness. The next morning an extraction team consisting of a minesweeping vehicle, personnel from the Explosive Ordnance Detachment (EOD), and a mine dog team moved to the site. The minesweeping vehicle cleared to within 200 meters of the site of the mine strike. The mine dogs were then used to identify a clear path for the remaining distance and the personnel were extracted. After the extraction, EOD discovered four TMA-3 AT mines and 17 PMA-3 anti-personnel mines.

DISCUSSION: Although the incident occurred because of poor navigation, the actions after the mine strike were sound. Those actions confirm that TFE soldiers learned the lessons from previous mine strikes and the mine awareness training.

☛ **TTP!!!** ***Although communications could not be immediately established with the higher headquarters, the MEDEVAC frequency was used to establish contact.***

☛ **TTP!!!** ***Opposed to moving from the site, risking another mine strike, the element remained at the location and waited for assets capable of clearing the area to arrive.***

☛ **TTP!!!** ***The element had sufficient food and water to remain at the location for an extended period of time.***

☛ **TTP!!!** ***The task organization and tactics of the extraction team proved to be effective.*** **The employment of mine dogs was also effective.**

MINE STRIKE RECOVERY OPERATIONS

● **Based on a series of TFE Mine Awareness AARs, soldiers noted that safe mine strike recovery operations begin even before a mine hit.**

☛ **TTP!!!** ***If possible, vehicles should have two cables to expedite recovery in case of a mine strike -- one on the front, and one on the rear.***

☛ **TTP!!!** ***The rear cables should be attached to the lower mounts.*** **This technique allows crews to hook up to a disabled vehicle without touching the ground.**

☛ **TTP!!!** ***When employing an M-88 Recovery Vehicle after a mine strike, keep the following information in mind:***

✔ ***The M-88 can run its cable out to 200 feet.***

✔ ***This decreases the risk of the M-88 (which has a wider track base) from also striking a mine while recovering the disabled vehicle.***

☛ **TTP!!!** ***Recovery personnel can then walk down the tracks made by the disabled vehicle to hook up the cable.***

☛ **TTP!!!** ***If the disabled vehicle is on a curve, recovery crews generally will have to bring the M-88 or another armored vehicle up to the disabled vehicle and use a tow bar to recover the disabled vehicle.*** **If the M-88 must use a tow bar, the route to the disabled vehicle must be carefully cleared, remembering that the M-88 has wider tracks.**

SYMPATHETIC MINE DETONATION

DISCUSSION: While clearing brush with explosives near Slovanski Brod, a sympathetic explosion of a suspected AT mine occurred. The mine was under the water table and buried in the mud - - because the area was under water, it had not been proofed. No one was injured, and there was no damage to equipment. It is believed that the overpressure caused by the explosives initiated the sympathetic detonation of the mine.

☛ **TTP!!! The overpressure of an explosion can cause sympathetic detonations of mines that are under water.** ***Units that are conducting mine clearing (or operations which involve the use of explosives) in the vicinity of rivers, streams and other bodies of water need to be aware of this phenomenon.***

MINE STRIKE VII

OBSERVATION: Three PMA-3 antipersonnel mines detonated in the Russian Sector, injuring five Russian Soldiers.

DISCUSSION: The Russian Brigade dispatched a team of seven soldiers to investigate a reported mine strike by an UNHCR vehicle. The Russian team departed the day after the UNHCR vehicle hit the mine. The team dismounted their vehicle at a former Russian checkpoint about 70 meters north of the accident site. They were equipped with two mine detectors and several probes. After proofing in a single file for about 150 meters and finding nothing, they turned back and headed for their vehicles. A PMA-3 mine detonated when the team was about 70 meters from its vehicles. One soldier fell on two other mines causing them to detonate. Four other soldiers were injured as a result.

What Happened?

Investigation indicates the route was not frequently traveled. There were no visible vehicle tracks past the incident site, and the road was not used by locals. The incident occurred in a known minefield, reportedly cleared by a FWF observed by an IFOR unit. A PMA-3 minecap found nearby appeared to be old, so the mines may have been in place for some time. The soldier who stepped on the mine walked off the cleared path. Since this mine causes injury primarily by explosion, not fragmentation, the other four soldiers injured may have been close together when the incident took place.

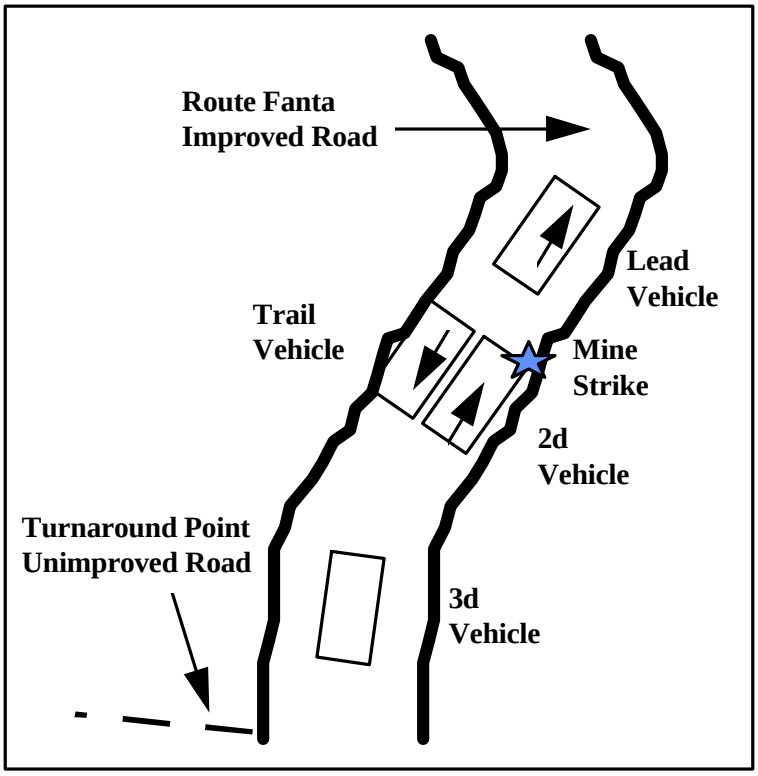
☛ TTP!!!

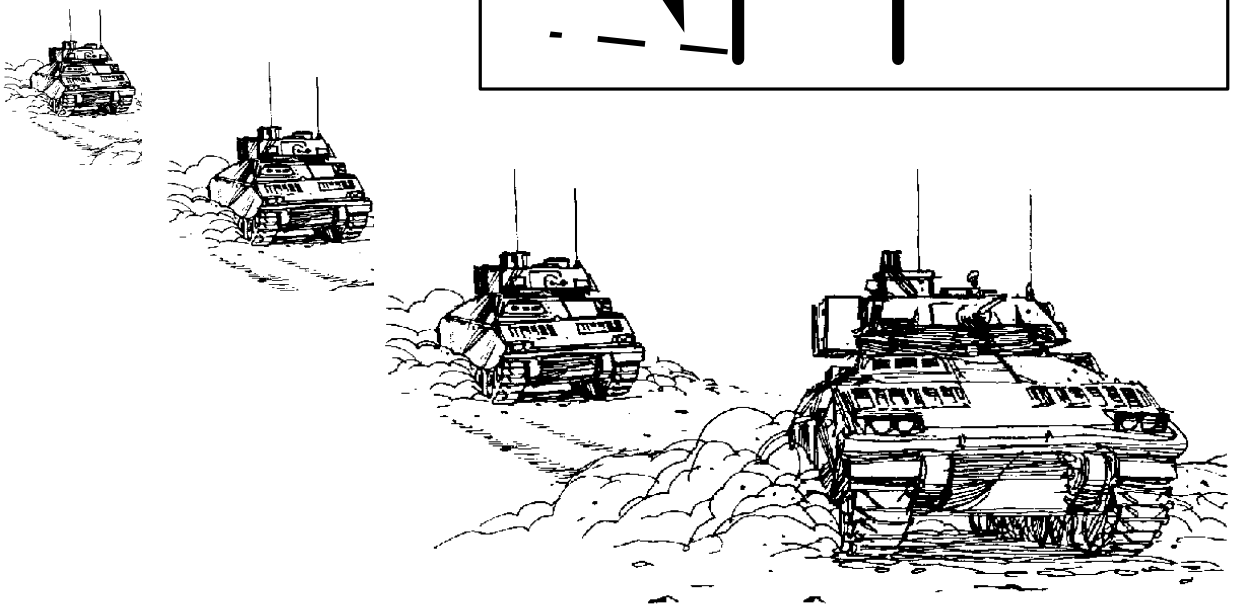
- **Consult TFE Mine Fusion Center for latest information on mines, MSE 551-3480.**
- **Use only hard-surfaced and IFOR-approved gravel roads.**
- **Do not use unimproved roads or roads avoided by locals.**
- **Reinforce mine awareness. What mines are common in the area? What is the best detection method for each of those common mines?**
- **Maintain the proper safe interval. If a mine does detonate, it should never injure more than one person!**
- **The PMA-3 has a limited amount of metal in its construction; therefore, mine detectors are of limited use.**
- **Consult "TACIPRINTS" to gain an appreciation of the mine threat in an area. These TACIPRINTS are, for lack of a better definition, minefield/minebelt contamination maps. We have 4,471 minebelts in our area of operations.**

MINESTRIKE VIII

DISCUSSION: A unit was making drawings of areas along the IEBL. Upon task completion, the convoy was oriented westward on Route Fanta, an improved road surface. To return to their base camp, the convoy had to turn around. They located an unimproved road that they could back into and turn around. As each vehicle turned around, it was forced to pass the vehicle following it on the improved surface road. The lead vehicle had little trouble passing the other three vehicles in the convoy. The second vehicle passed the third vehicle without any problems. However, as it was passing the trail vehicle in the convoy, it struck an anti-tank mine with the front tire of the vehicle. See diagram.

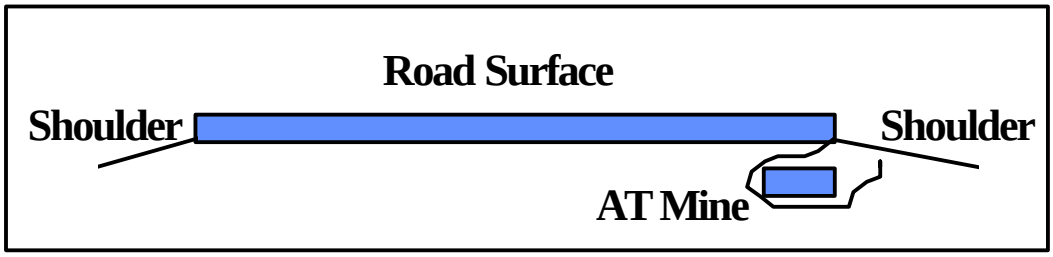
Engineers assessed that the FWF may have buried a mine under the improved surface road and the weight of the vehicle had caused the asphalt to sink, detonating the mine. The mine destroyed the entire front of the HMMWV. Soldiers in three of the HMMWVs sustained injuries.





☛ **TTP!!!**

● ***Never assume that an improved surface is clear by visual inspection alone. In this case, the FWF may have placed the mine under the road surface.***



● **The incident occurred along a former frontline and was very close to a defensive network. The FWF mined areas along the frontlines and the defensive networks extensively. Many mines are still in place. Units should use extreme caution when passing through particular areas. All three FWFs admitted that they used the technique of burying mines under improved road surfaces.**

● **The unit normally drove in the middle of the road when they operated along this route because they were aware of the minefields in the area. Units should use this technique whenever possible when conducting operations in the ZOS.**

● **The KEVLAR blanket was a tremendous anti-mine reactive countermeasure. It minimized the explosion's impact and reduced flying debris. *It may have saved the soldiers' lives.* Leaders should inspect vehicles used in heavily mined areas to ensure the KEVLAR blanket is properly installed.**

B. BOOBY TRAPS/FIELD EXPEDIENTS AND FACTION MINE TACTICS

BOOBY TRAP AWARENESS I

SITUATION: During a patrol of the Zone of Separation, a platoon encountered an unoccupied building.

☛ **TTP!!!** ***Before entering through the door of the building, the patrol carefully examined the building interior through a side window.***

✔The patrol was able to detect a wire leading from the interior door knob to what appeared to be hand grenades hanging over the door entrance.

✔The patrol did not enter the building and reported the booby trap to their TOC.

- ***Upon later examination by EOD elements, it was determined that the apparent grenades were, in fact, only grenade fuses.***

The patrol demonstrated excellent booby trap awareness in their actions before entering the building: exercise caution; let EOD handle booby trap problems.

BOOBY TRAP AWARENESS II

- **A local civilian approached a checkpoint and complained that an unoccupied, partially destroyed house had been booby trapped.**
- **A patrol was send to investigate, and verified that there was one SPK M79 grenade rigged to the door of the house.**

☛ **TTP!!!** ***The patrol did not attempt to clear the booby trap. They marked the house and the adjacent street with mine warning signs and reported the situation to their higher headquarters.*** **The FWFs are required to remove mines and booby traps, not IFOR soldiers.**

☛ **TTP!!!** ***The unit handled this situation correctly:***

✔They investigated the report of the booby trap.

✔They reported what they found to their higher headquarters, FWFs and the appropriate civilian authorities to warn displaced persons.

✔They did not attempt to clear the booby trap themselves.

✔They marked the area to warn others.

BOOBY TRAP AWARENESS III

SITUATION: In separate incidents within the TFE area of operations, two booby traps detonated causing injuries to a civilian boy and a civilian man. *In the first case, the boy was given a gym bag and was told that it contained toys and cigarettes. When the boy opened the bag, it detonated. In the second case, the elderly man saw a coke can sitting on top of a coat which was lying on the ground. When he moved the can to retrieve the coat, the can exploded.*

RESULT: The devices caused injury to both the boy and the man. They were taken out of the area by TFE personnel, treated and transferred to civilian care. Fortunately, their injuries are not serious.

Thus far, all the booby traps found within the ARRC area of operations have been found in areas that are being evacuated by one faction and occupied by the other. **This does not mean that other areas are safe!** ***What it does mean is while all areas can be booby trapped, the danger is greater in locations being transferred under the Dayton Accords.***

POSSIBLE BOOBY TRAP USE DURING ELECTIONS

SITUATION: During a national election period, refugees may take the opportunity to return to their homes. The Organization for Security and Cooperation in Europe (OSCE) estimates that as many as 130,000 refugees may attempt to return home in conjunction with the elections. Various factions throughout TFE's area of responsibility tried to block the return of refugees to their former homes. In the past, the Former Warring Factions (FWFs) used booby traps to prevent their return. Previously, soldiers found booby traps in Coke cans, gym bags, and rigged to doors of unoccupied houses.

DISCUSSION: During the early months of the deployment, TFE soldiers experienced isolated incidents in which they had to deal with booby traps. The majority of booby traps found by TFE soldiers were in areas that were being evacuated by one faction and then occupied by another. This may be the case when refugees begin to arrive around election time. TFE soldiers need to approach every possible booby trap as suspect and take appropriate actions.

☛ TTP!!!:

- **Soldiers must stay alert. If something looks suspicious, stop, carefully and thoroughly examine before proceeding.**
- **If it is not yours, do not pick it up. Also be suspicious of all packages or bags that you find. If you do not know to whom it belongs, do not touch it. It may be booby-trapped.**
- **Units should remember that it is not their job to remove booby traps. It is the responsibility of the FWF unit in that area. Units can investigate reports of possible booby traps, especially if there is a chance that other IFOR soldiers or innocent civilians are in danger. However, units should be very cautious when conducting these investigations.**
- **Units should report their findings to higher headquarters, FWF, and any appropriate civilian authorities in the area to warn of the possible threat.**
- **Units should mark the area but should not attempt to clear the booby trap themselves.**
- **If there are questions regarding a potential booby trap, notify EOD. They are the booby-trap experts.**

C. MINE CLEARANCE OPERATIONS

PANTHER MINE DETONATION

DISCUSSION: A unit was conducting a proofing mission using the Panther, which is a remote-controlled M60 chassis with roller. The order of march during the mission was the factions, the Panther, a M113 Panther control vehicle, an engineer squad, M2 for security, and a medical M113. After the route was cleared, the Panther was used to make several passes over the road to ensure that it was free of mines. During one of the passes, a soldier in the control vehicle heard a noise that sounded like "a balloon popping" and saw a white puff of smoke from the left side of the Panther. After the blast, the platoon leader stopped the operation, determined that no one was injured and reported the mine detonation to his higher headquarters. The Panther was then backed out to a safe location so it could be checked for damage. After determining that the Panther was undamaged, it was driven over the road several more times.

The Panther is a viable asset for proofing operations. Although a mine detonation is never something to look forward to, it is reassuring that the Panther did its job and soldiers were kept out of harm's way.

☛ **TTP!!!** ***The appropriate measures were executed after the detonation:***

✔The platoon leader stopped the operation, ensured no one was injured, and reported the incident to his higher headquarters.

✔The Panther was backed out to a safe location to check for damages to the vehicle and several more passes were made to ensure the route was free of mines.

☛ **TTP!!! Small anti-personnel mines can pass through the gaps in the rollers. Consequently, several passes, moving forward and then backward, should be made, ensuring that each stretch of the route is overlapped with a roller.**

SECURITY DURING MINE CLEARANCE

DISCUSSION: A unit was conducting minefield clearance with one of the factions. The mines were stockpiled and EOD emplaced explosives to destroy the mines. All personnel moved to a safe location and EOD ignited the fuse. A common event that occurs everyday in the ZOS ***until . . .***

A soldier saw a farmer walking down a trail toward the field. The farmer had been working the same fields for years and knew where the mines were, so he went about his business as usual. The soldiers finally alerted the farmer and he moved to safety. However, an older man, unseen by the soldiers, was behind the farmer and continued moving along the trail. The demolitions exploded, and the second man was knocked to the ground, unhurt, but obviously startled.

Fortunately the second man was not seriously injured. However, the whole incident might have been avoided.

☛ **TTP!!!** ***Once it is determined when and where the mine demolition will take place, use your translators or CA personnel to notify the populace that mine clearance is being conducted and that they need to stay out of the area. Tell them how long so they will know when they can go back to work.***

☛ **TTP!!!** ***Prior to the conduct of a clearance mission, conduct a reconnaissance to determine routes into the area, particularly those farmers would use.***

☛ **TTP!!!** ***Consider putting bullhorns on your equipment list for mine clearance operations. The bullhorns (or air horns) can help alert civilians who accidentally wander into the area. If available, use a TPT loudspeaker team to explain the signals to the local populace.***

☛ **TTP!!!** ***Clearly mark all routes leading into the area with signs notifying the populace that mine clearing operations are being conducted.*** ✪

CHAPTER II
OPERATIONS, SECURITY, AND TACTICS

UNIT REACTION UNDER FIRE

SITUATION: A unit was conducting a dismounted patrol when it came under fire from an elderly, intoxicated civilian.

REACTION UNDER FIRE!!! The soldiers took cover behind their overwatching M2 Bradley Fighting Vehicle, which was struck by several AK-47 rounds; neighbors came out and wrestled the man to the ground.

- **The individual was disarmed, detained, and turned over to FWF Police.**

- **Deadly return of fire was authorized under the current Rules of Engagement *: "You may open fire against an individual who fires or aims his weapon at you, friendly forces, or persons with designated special status under your protection ."***

☛ **TTP!!! The discipline and alertness of the patrol saved this individual's life. By properly assessing the nature of the attack, and mindful that the Rules of Engagement also state *"Use only the minimum force necessary to defend yourself,"* the patrol averted a tragedy.**

UNIT REACTION TO PROBE

SITUATION: A unit was tasked to secure a communications site in the area of operations. The security element emplaced magnesium flares as early warning devices along likely avenues of approach into the area. In the early evening, a trip flare was activated, alerting the Quick Reaction Force (QRF).

REACTION UNDER FIRE!!! Seeing footprints and hearing movement, the QRF fired two M203 illumination rounds. A burst of small arms fire was heard. The soldiers fired three more illumination rounds, but still could not identify any personnel targets. The incident was immediately reported to headquarters and the security posture was increased to 100 percent.

The unit exercised effective Operational Security (OPSEC) and correctly employed the Rules of Engagement (ROE):

- **"Use only the minimum force necessary to defend yourself."**
- **"Fire only aimed shots."**

CONVOY OPERATIONS I

SITUATION: TFE constantly has convoys on the road, to the point that it seems routine. However, the reality of movement in Bosnia is anything but routine. Convoys may hit a mine, get lost, loose communications, have an accident, hit an unauthorized checkpoint, or any number of other unpleasant events.

☛ **TTP!!! Convoy commanders should ensure that soldiers do not become complacent about convoy operations. Before each convoy, brief the following actions to all members of the convoy:**

- ✔ **Actions at breakdowns**
- ✔ **MEDEVAC procedures**
- ✔ **Routes, Checkpoints and Rally Points**
- ✔ **Minestrike procedures/locations of known minefields**
- ✔ **Actions on contact**
- ✔ **Actions to take if there is a break in contact**

☛ **TTP!!! Units should develop and drill "lost communications" actions. Both the convoy and the unit must have an established drill to regain communications, especially if the convoy is overdue. On one occasion, a convoy was overdue, and the BDE had to send out helicopters and the QRF to regain communication.**

Leaders must ensure that soldiers understand and are prepared for the dangers faced when conducting convoys. Special care should be taken to prevent complacency on safety, communications, and readiness issues.

GATHERING INTELLIGENCE I

SITUATION: FWF guards at an equipment collection site were noted by a soldier as having not shaved or bathed in several days, were in need of dental work and their weapons were dirty. Also, the guards belonged to the local militia and lived in the next town. Over several days a soldier performing guard duty at a lodgement area gate noticed a pattern of behavior by some local men. A soldier driving in a convoy noted replaced windows and patched roofs on a few abandoned buildings.

DISCUSSION: There is a temendous amount of important intelligence information to be found in the obvious. Every soldier can observe and discover information by observing the area, equipment, and people along wherever they may be. *This seemingly ordinary information can help the S2 "fill in the gaps" and develop a more accurate picture of what is really going on in the local community.* For example, the above true situations revealed the following facts:

- **The FWF equipment guards were poorly trained, lacked support by their chain of command, and had poor morale.**

- **The local men were agents conducting active surveilliance of the camp.**

- **Some people had been going to the town to work on houses and planned to move into them.**

This is all important information. Simply by doing your job and keeping your eyes open, you can contribute a great deal to the Task Force effort.

☛ **TTP!!!**

When Observing Local People, note . . .	*When Observing Local Areas, note . . .*
✔ Type and condition of clothes, uniforms, equipment. **✔ Type, amount, and condition of weapons and ammo (if any).** **✔ Personal hygiene (shaving, cleanliness).** **✔ Personal health (wounds, scars, signs of sickness, dental problems).** **✔ Where and how they live.** **✔ Personnel services available (pay, quality of food, sanitary facilities).**	**✔ Military equipment:** **☞ Location (open to the weather, in warehouse, near ammunition).** **☞ Maintenance (rusted, well-oiled).** **☞ Signs of recent use or movement.** **✔ Behavior and Activity:** **☞ New constuction or stockpiling of material.** **☞ Abrupt stopping of normal activity.** **☞ Changing pattern of population movement.**

REACTION TO CIVIL DISTURBANCE

DISCUSSION: An Inter-Entity Boundary Line (IEBL) crossing by the FWF from Maglaj to the village of Rijecca in the Doboj municipality was coordinated through the mayors of Maglaj and Doboj. The purpose of the crossing was to visit a cemetery. It was agreed that the visit would take place and another Chief of Police guaranteed the safety of the faction visitors. Coordination by both TFE and NORPOL staffs ensured that the conditions were set to minimize the possibility of a confrontation between the two FWFs. These actions included: positioning of checkpoints along the route to monitor movement and to ensure weapons were not brought into the ZOS; helicopters were on standby; and QRFs were postured to respond, if necessary. In addition, the IPTF and UNHCR would accompany the visiting factions personnel throughout the visitation. When the visitors reached the IEBL, an FWF police force handed the group over to another FWF police force who escorted them to the cemetery. A crowd of 15 other faction personnel were at the site. Four of the other faction individuals instigated an altercation with journalist who were with the visitors. One of the faction individuals fired two shots in the air; the FWF police subdued him and confiscated the weapon.

The incident was reported by the IPTF to the TFE TOC. As a result, the DANBN QRF was positioned two kilometers north of the site; a tactical PSYOP team moved to link up with the QRF; a OH58C flew to the location; and the TFE QRF with combat camera crew were put on a 30-minute alert. The OH58C confirmed the number of FWFs at the site to be 15. The visit resumed, but was later suspended because of rock throwing and increased tension. The FWF police escorted the visitors back to the appropriate side of the faction IEBL.

☛ **TTP!!! Because of the prior coordination by the TFE staff ensuring the involvement of the mayors, both factional police, the IPTF, and the UNHCR, the situation was resolved by the civil authorities rather than TFE soldiers.**

☛ **TTP!!! The TFE staff also synchronized a branch plan to introduce TFE forces, if the situation could not be resolved by the civil authorities.**

☛ **TTP!!! Generally good reporting by the IPTF and NORDPOL allowed the TFE Battle Captain to track the battle and provide updates to the Commander and Staff. This facilitated the rapid buildup of combat power once the shooting incident occurred.**

☛ **TTP!!! The OH58C, with observer, served as a redundant means to confirm or deny reporting.**

PERIMETER SECURITY

DISCUSSION: There were 51 incidents of unauthorized personnel attempting to penetrate the perimeter of base camps - - 24 were successful. The perpetrators were frequently being identified and detained prior to entering the base camp. This is mostly due to the increased vigilance and situational awareness of guards and patrols in the base camps. The TFE G2 analyzed the incidents, distinguishing no clear trends. However, the geographic concentration of the incidents correlate with local populace needs (trying to acquire foodstuffs) and existing targets of opportunity (if security does not appear to be maintained). Most of the intruders are teenagers. There were no indications of a prospective threat from organized or terrorist elements.

☛ **TTP!!! Varying the patterns or activities of base camp security helps avoid routines and reduces the possibility of being targeted.**

☛ **TTP!!! Effective base camp security measures is the best precaution to deter prospective intruders from attempting a base camp penetration.**

☛ **TTP!!! Constant assessment and re-evaluation of incidents and reporting from units and convoys assist the S2/G2 in identifying trends and analyzing the tactics and techniques of perpetrators.**

☛ **TTP!!! Proactive CID programs are the cornerstone to a thorough investigation of incidents and Civil Affairs campaigns assist in identifying community needs and the dissemination of information.**

SYNCHRONIZING MEDICAL ASSETS

During an IEBL crossing, two civilians were killed and six were wounded. TFE provided a great effort to minimize the possibility of violence during the crossings. However, the potential for civilians and or soldiers being injured during a confrontation is always present. A cavalry unit has developed a detailed "contingency plan" for the employment of not only their combat forces, but also the synchronization of their medical assets in the case of a violent crossing which results in injuries. This lesson and TTP spans beyond the spectrum of operations in Bosnia to all missions undertaken by U.S. Forces - both present and future.

☛ **TTP!!!** **"Surge" medical assets during a IEBL crossing, thereby weighting the main effort with the necessary resources. The unit task organizes a medic with every squad. A medic is also deployed with the CA team and observes the people getting on a bus, and identifies potential casualties based on a visual assessment (e.g., old people who are likely to be heat casualties or have heart problems).**

☛ **TTP!!!** **In past incidents, wounded civilians were evacuated in POVs.** ***Although a hospital was in proximity of the incident, the casualties were evacuated to a facility farther away because it was the same ethnicity of the wounded personnel.*** **Planners must wargame the location of hospitals and the ethnicity of the facility in case the unit is required to evacuate civilian casualties.**

☛ **TTP!!!** **The Battalion Surgeon positions himself, along with a partial Advanced Trauma Lifesaving System (ATLS), approximately 400 meters from the crossing site. This allows him to rapidly respond to an incident. A MEDEVAC helicopter is also on alert.**

A "rock drill" rehearsal is conducted prior to every operation. Each contingency is wargamed, using the "action-reaction-counteraction" methodology to anticipate every possible event that may occur and the response of the unit.

DETERRING FACTION CRIME

SITUATION: Criminal acts, harassment, and attacks occur against civilians (usually personnel from all the FWFs) along a MSR in a unit area of responsibility. Police, or individuals claiming to be police, or well-armed criminal groups use these common techniques:

- **Individuals dressed in plain clothes, identifying themselves as police, stop civilians to check for ethnicity, or car license information.**
- **Three to five individuals in police or quasi-police uniforms with traffic paddles conduct unauthorized checkpoints and stop "out-of-towners."**
- **Two to six individuals in one or two cars will identify a vehicle and run it off the road.**

In each instance, the civilians are usually beaten and robbed. Often, the vehicles are stolen. The carjacking activities peak between 0400 and 0800 and 1600 and 2000 on weekdays to exploit routine traffic patterns and early morning travelers moving south from a factional geographic area.

☛ **TTP!!! IPTF and local police are integrated into the operation. Efforts to establish ownership for law and order among local police are continued through meetings.**

☛ **TTP!!! Crime will be deterred through the presence of U.S. forces. Temporary observation posts are established to monitor traffic, stop and randomly search vehicles. Ground and aerial patrols are conducted. Adherence to the ROE is key to mission success.**

☛ **TTP!!! All activities are well documented, with photographs and accurate reports. Operations must be calmly and deliberately executed, ensuring force protection.**

☛ **TTP!!! The old adage ". . . if you don't check it, it won't get done right . . . ." clearly applies to our efforts in holding the local police responsible for maintaining law and order. Our presence (and discipline) is a constant reminder to the factions that they must implement the peace. If they know we are scrutinizing their activities - - they will do it right.**

RUSSIAN AND U.S. JOINT PATROL

DISCUSSION: A U.S. unit conducted several joint patrols with an element from a Russian Brigade. The last joint patrol conducted was task-organized with two BTR-80s and 10 Russian soldiers, two M2A2s, one HMMWV, and 17 U.S. soldiers which included a medic, forward observer, enlisted tactical air controller (ETAC) and an interpreter. The mission of the patrol was to reconnoiter a named area of interest (NAI) and patrol primarily Russian BDE routes.

☛ **TTP!!! If nothing else, the fact that two former enemies working together in a mission of peace demonstrates to the FWF that seemingly insurmountable differences can be overcome.**

☛ **TTP!!! The equitable force mix of two BTR 80s and two BFVs clearly portrayed a "joint" effort. Because the patrol was conducted in the Russian sector, the Russian element was in the lead - - there was no evidence of one unit trying to upstage the other.**

☛ **TTP!!! The same two units worked together on other patrols - - the same Russian interpreter was on every joint patrol. The habitual relationship facilitated the process - - vague details of the operation were worked out through face-to-face coordination. The ease of the coordination would not have been afforded if the two units had never worked together.**

LESSON RELEARNED!!! Patrol orders must have a clear task and purpose. The task must be definable, attainable and decisive. FM 101-5-1 provides the definition for U.S. military tasks. The purpose is simply "why" it's being conducted. However - - remember that the purpose is the most important component of a mission statement. Consequently, before the units commence a joint patrol, ensure there is a commonality in terms for the task and a complete understanding of the purpose of the mission.

FIELD CRAFT AFTER-ACTION REVIEW

A TFE unit periodically conducts "Field Craft" After-Action Reviews where TTP from current operations are identified, collated, and disseminated throughout the battalion and the Ready First Combat Team. This, in itself, is a great TTP. CALL was fortunate to receive a copy of the AAR and provide the rest of Task Force Eagle with some of the "Black Knight's" TTP.

☛ **TTP!!!** ***Counter-Sniper Operations:*** **While operating from an observation post, several potential sniper "hides" and "loop-holes" were reconnoitered and destroyed. The sniper qualified personnel in platoons are especially valuable in performing counter-sniper assessments.**

☛ **TTP!!!** ***Mine Destruction:*** **Some mines are destroyed in place (TMRP-6s), while others can be stacked in piles (TMM-1s). Be prepared to do a combination of techniques. The unit rigged all demolition and firing systems. The FWFs placed the charges and initiated the system. If blowing numerous piles, have systems timed differently to have distinct explosions. Count the explosions. For non-electric systems, wait 30 minutes after a mis-fire. Go back a safe distance. Directly behind buildings is not acceptable - - falling shingles can be deadly.**

☛ **TTP!!!** ***Mounted Patrols.*** **Ensure driver's hatches are down and Bradley Commander's hatches are up - - it reduces visibility, but increases force protection. Driver's hatches should be up on three occasions: (1) When parking; (2) If weather significantly hinders visibility; (3) When in crowded areas.**

☛ **TTP!!!** ***Employment of NVDs in Lighted Areas.*** **Clearly, NVDs are not effective in lighted areas. However, during patrols around base camps and other areas, personnel often move from lighted to unlit areas. If the PVS-7Bs are properly worn, soldiers can mount the NVDs on the headharness so they are slightly tilted upwards allowing normal vision while looking straight ahead. When entering an unlit area, the head can be tilted downward permitting employment of the NVD. Properly mounting the NVDs frees the hands to perform more important tasks - - such as employing one's weapon when required. Soldiers should avoid using NVDs in the handheld mode, succumbing to the "$2,000 Necklace Syndrome" - - this takes discipline!**

JOINT RELIGIOUS MEETING

DISCUSSION: A meeting was held in 1 BCT's sector which consisted of the BDE's Unit Ministry Team (UMT), members of non-governmental organizations (NGO) and private organizations (PVO), members of an FWF Orthodox clergy and laity, some FWF Catholic clergy and FWF clerics, and interpreters. The group discussed a variety of topics to include past cemetery visits to Modrica and Gradacac, the disposition of church records and church property left behind by fleeing congregations during the war, and the involvement of the clergy in politics. The overall spirit of the meeting was reserved at first, and then warmed as personnel met others they had known before the war. The group demonstrated no sense of using the pulpit to advance the broader cause of peace, but there was considerable willingness on the part of the participants to help solve one another's specific problems. The assembled clergy remained inward-focused in the sense of reaching across denominational lines only within the circle of professional clergy, and only to solve professional problems. The clergy was not yet ready to take a leading role in forging a true and lasting peace among the people of Bosnia.

☛ **TTP!!!** **The UMTs worked closely with clergy of the FWFs to build a bridge across seemingly insurmountable religious differences - - differences that have often led to violence.**

☛ **TTP!!!** **Combat power is often defined in terms of four elements - - Fire Power, Maneuver, Protection, and Leadership. Commanders and staffs develop plans to arrange battlefield activities to concentrate combat power at the decisive time and place - - that is synchronization. One of the most important lessons learned during Operation Joint Endeavor is that combat power sometimes transcends beyond the traditional elements - - it also may include UMTs, JMC, and PAO. In addition, the decisive point does not necessarily have to be a piece of terrain. In some cases, it may be a joint religious meeting.**

ALERT PROCEDURES IN BASE CAMPS

A brigade conducted a "no-notice" alert to practice readiness procedures if the Brigade was required to upgrade its security posture to SECCON 1. The practice alert is an excellent technique to gauge readiness. In addition, some valuable lessons were learned from the exercise.

Notification Procedures Within Base Camps:

☛ **TTP!!!** **In one unit, it was discovered that notification of the alert was spread largely by word of mouth.**

There needs to be a combination of signals, both visual and audio.

☛ **TTP!!!** **One unit used a visual signal (star clusters) to alert personnel in base camps. Another unit used a combination of a star cluster for visual and two audio signals - -** ***a "Triangle Warning" and three short blasts from a whistle. This unit also used a "runner" and a PA system to issue instructions.***

Civilians Inside the Base Camps:

☛ **TTP!!! There are many civilians inside the wire at any given time. These civilians include local nationals and IFOR-employed civilians from other countries.**

☛ **TTP!!! There needs to be a combination of signals, both visual and audio. Civilians need to be accounted for and secured at a protected location. A decision must be made whether the situation permits the local civilians to be escorted outside the wire. Regardless, local civilians should not be allowed to use the phones to call home.**

Command and Control of the Perimeter Defense:

One unit positioned the HHC Commander, who was tasked to command and control the perimeter defense, inside the TOC. The TOC was cramped due to the excess number of people.

☛ **TTP!!! Another location needs to be designated for command and control of the perimeter defense other than the TOC. This location needs to have ample space for excess personnel and good communications.**

BRIDGE SECURITY

DISCUSSION: Units secured the BRCKO Bridge since it was opened to military traffic. The following represents several lessons from the operation.

☛ **TTP!!! Lighting on the bridge was inadequate, and the area could not be illuminated with flashlights or perimeter lights. A possible solution is to hang a flare on a wire over the side of the bridge.**

☛ **TTP!!! At night, it is difficult for motorist to see the blue barrels and tetrahedrons. Additional traffic cones and lighting is required. Reflective tape would assist in identification of the cones.**

☛ **TTP!!! There must be detailed coordination with the Military Police who control traffic on the bridge. Reporting and communication procedures need to be established to facilitate command and control.**

☛ **TTP!!! Locals in the area continually request assistance from units securing the bridge. As much as soldiers would like to help, they cannot be diverted from their primary task.**

☛ **TTP!!! CA and PSYOP teams must inform civilians that the bridge may only be used for military traffic.**

☛ **TTP!!! Non-U.S. IFOR units arrive at the bridge unscheduled. These units often do not know the procedures for getting road-march credits.**

☛ **TTP!!! Mine detectors are much less effective around the bridge because of the high density of metal.**

☛ **TTP!!! Sand Vipers have become more abundant around the bridge. Snake bite kits and serum must be on hand in the event of a snake bite.**

☛ **TTP!!! The light generator is not very durable. To prevent overloading the generator or damaging the lights, it is best to turn on one lamp at a time as opposed to turning them all on at once.**

☛ **TTP!!! Locals often inadvertently activate trip flares. Signs should be posted to alert civilians not to enter the area.**

VEHICLE BREAKDOWN PROCEDURES DURING CONVOY OPERATIONS

SITUATION: During a convoy, a vehicle broke down. The convoy did not have the necessary equipment to conduct self-recovery to tow the inoperable vehicle. The convoy commander decided to leave the vehicle with the driver and TC, while the remainder of the convoy (three vehicles) moved to the closest base camp to get assistance. Ultimately, the vehicle and personnel were left at the location overnight. The next day the vehicle was recovered without incident.

DISCUSSION: The purpose of the four-vehicle convoy is to facilitate force protection, deterring ambush and kidnapping. Additionally, the four-vehicle rule provides convoy commanders flexibility. *The convoy commander can cross-load personnel from an inoperable vehicle if self-recovery cannot be performed. Another alternative is to leave a vehicle with the element while the remainder of the convoy seeks assistance. Only under the most extreme circumstances should soldiers and a single vehicle be left alone.*

☛ **TTP!!! Actions for vehicle breakdowns during convoys must be wargamed and incorporated in unit standing operating procedures. Units should approach vehicle breakdown procedures as a battle drill with actions being executed sequentially.**

☛ **TTP!!! Units should consider the following actions:**

Step 1: **Establish communications notifying the units higher headquarters that a vehicle in the convoy has broken down.**

Step 2: **Attempt self-recovery - - This step infers that the convoy has the appropriate equipment to execute the task. Pre-convoy inspections should ensure that self-recovery equipment is available and serviceable.**

Step 3: **If self-recovery cannot be performed, leave a vehicle with the inoperable vehicle. Before departing, the convoy commander should render a "five-point contingency plan" outlining what actions to take in specific instances (e.g., attack).**

Step 4: **If steps 2 and 3 are not appropriate, cross-load personnel and move to the closest base camp.**

BASE DEFENSE EXERCISE AFTER-ACTION REVIEW

SITUATION: A car bomb exploded at the front gate. Mortar rounds were impacting within the confines of the base. Sirens were wailing. Armed personnel were trying to breach the perimeter. Eagle Base was under attack. These are just several of the scenarios that TFE soldiers at Eagle Base had to react to during a base defense exercise.

DISCUSSION: TFE bases are subject to attack at any time. To prepare for such an attack, the soldiers assigned to Eagle Base participated in a five-hour base defense exercise to sharpen their base defense skills. The first three hours of the exercise were devoted to situation development. The last two hours were incident development. The main tasks that were evaluated included:

- **Establishing the Eagle Base Defense Coordination Net.**
- **Passing indications and warning (I&W) from the division to unit TOCs on the base.**
- **Raising force protection levels for all soldiers on base.**
- **Activating and manning all perimeter supplemental positions.**
- **Reacting to/stopping perimeter breach by armed personnel.**
- **Reacting to car bomb incident.**
- **Reacting to attack from indirect fire or air attack. Activating the bunker occupation plan.**
- **Reacting to/evacuating a casualty.**

☛ **TTP!!!** ***Actions for base defense should be clearly outlined in the base defense SOP. The base defense SOP should be disseminated down to the soldier level ensuring that every soldier understands his part in the base defense plan.*** **Base defense exercises should be conducted regularly to ensure compliance with the SOP. It is too late to discover a flaw in the base defense plan when an actual attack occurs.**

Units should consider the following when creating or updating base defense SOPs:

Force Protection Levels

☛ **TTP!!! A systematic approach needs to be established to alert all units on a base about the increase in the force protection level. Often, isolated units and civilian/government organizations are overlooked.**

☛ **TTP!!! Soldiers need to ensure that protective equipment, such as body armor and protective mask, is readily available. Many soldiers do not bring this equipment to their daily assigned positions. In the event of an increase in the force protection level, these soldiers would have to leave their place of duty to retrieve their equipment, thus disrupting daily operations at a critical time.**

Bunkers

☛ **TTP!!! Engineers should routinely inspect bunkers to ensure that they are safe to occupy.**

☛ **TTP!!! Units that maintain bunkers should ensure that a plan exists to provide light, heat, food and water for the bunker. In the event that bunkers are occupied for extended periods, these life support items are essential.**

☛ **TTP!!! When a bunker occupation plan is activated, each bunker must have a type of communication means to ensure that soldiers remain informed of the situation. Either a land line or an FM radio will work.**

Alarms

☛ **TTP!!! Alarms, such as sirens, need to be tested routinely. Alarms should be heard throughout all areas of the base. Supplemental alarms, such as vehicle horns, may need to be used to reach isolated areas of a base.**

☛ **TTP!!! Different alarms can be used to distinguish between different types of attacks. One type of alarm can signify an air/mortar/artillery attack and a different type of alarm for a ground attack. Different actions may be required of soldiers for these two types of attacks.**

New/Transient Soldiers and Visitors

☛ **TTP!!! Units should ensure that new soldiers are briefed on force protection levels on the first day they arrive in theater. Units should also provide guidance to newly arrived soldiers on actions to take in the event of an attack on the base.**

☛ **TTP!!! Soldiers in transit and visitors may be visiting a base when it is attacked. These soldiers will not be aware of the actions that are required of them in the event of an attack. It is the responsibility of all soldiers to assist and provide guidance to these visitors who are not familiar with the base SOPs.**

Civilians/Local Nationals on Base

☛ **TTP!!! There are many local nationals on base doing various jobs. These local nationals need to be accounted for, ensuring their safety from attack and the safety of TFE soldiers in the event that some of these local nationals decide to participate in the attack.**

DEFEATING HOSTILE SURVEILLANCE

SITUATION: TFE soldiers observed individuals conducting surveillance of various base camps throughout the area of responsibility. One male approached the front gate at Commanche base and asked questions regarding how guard shifts were conducted. The guards provided no information and reported the incident through their chain of command. The military police detained the individual the following day. Guards also observed one male taking photographs of defensive positions at another base. Guards notified the QRF and attempted to approach the individual. The individual fled the area and is still at large. Also at the same base, guards observed two Japanese males photographing the defensive obstacles. Guards notified the QRF, who apprehended the suspects. The QRF questioned and searched the suspects. They found a drawing of a float bridge. They confiscated both the film and the drawing. At a lodgment area, a civilian worker within the base camp threw a gym bag over the wire to three local nationals. The QRF detained and questioned the local nationals. The local nationals refused to identify the civilian who threw the bag over the fence. The bag contained a rope, a pair of sneakers, and a bag of candy. Although none of the incidents posed a major threat to TFE soldiers, information derived from their endeavors could have provided valuable information to hostile forces.

DISCUSSION: TFE bases are subject to attack at any time. The more the attacker knows about the defenses of a base, the more likely the attack will succeed. TFE soldiers should make every effort to deny this valuable information to a possible attacker.

Soldiers at various bases were successful in defeating hostile surveillance because they understood the current situation. They were aware of the possible threats to the base. The guards were alert. They took their job seriously, understanding that many soldiers depended on them for protection.

A QRF was ready to reinforce or investigate a possible hostile or suspicious situation. Potential hostile groups did not gain valuable information due to quick actions and response of the QRF.

It is imperative that guards detain suspicious people conducting surveillance of base camps. Guard force leaders should plan for contingencies in which a suspect makes it to the "get away" vehicle and have mobile assets available to block escape routes.

Guards understood that serious incidents, such as surveillance of base defenses, need to be investigated and reported through their chain of command to either the unit's S3 or S2.

GUIDELINES FOR ADDRESSING CROWDS

DISCUSSION: As identified earlier in *The Maglaj Incident*, there were numerous lessons on civil disturbances. Most importantly, TFE internalized that it is the civil authorities, not Task Force Eagle's responsibility to enforce the law. TFE forces are not to serve as crowd control or riot police; however, units may be requested to assist on a case-by-case basis, to the extent of their primary mission. Soldiers and leaders may be placed in a position where they may have to address crowds - - possibly hostile crowds.

Members of PSYOP company participated in several civil disturbances. From their experiences, they provided the following lessons for addressing crowds.

FOR TRAINERS!!!

☛ **TTP!!! If the group is organized and there appears to be a leader of the group, ask that individual if the matter could be discussed face to face, ideally away from the crowd. This is the preferred method, as it provides immediate feedback to the issue and the problem. Talking away from the crowd prevents outside influences from sidetracking the discussion.**

☛ **TTP!!! Use key communicators, when possible, to address the crowd, e.g., local mayor, police, and military leaders.**

☛ **TTP!!! When using a loudspeaker system, follow these guidelines:**

- **Direct the broadcast toward the agitators or main portion of the crowd.**
- **Anticipate what the crowd may do and have a prepared message.**
- **Do not allow yourself to become surrounded by a crowd.**

☛ **TTP!!! Make your messages simple, concise, and short. Maintain your composure. Use a male voice in a male-dominated society.**

☛ **TTP!!! Be careful when using ultimatums or threats. Do not use them unless the situation makes it absolutely necessary and you are willing and have the authority to carry them out.**

☛ **TTP!!! Ensure you have a trustworthy interpreter. Write down what you are going to say and read it verbatim.**

INTEGRATING NEW PERSONNEL

SITUATION: A new soldier arrives at your unit. What do you do to bring him "up to speed" on the current situation? Your actions in the first 48 hours may save his life and make him an integral part of your team.

☛ **TTP!!! New soldiers will continue to arrive in theater until U.S. Forces redeploy. Many units have developed "New Soldier" training programs designed to rapidly bring the new soldier "up to speed" on the current situation. These units rely on their veterans to conduct the majority of this training. One squadron implemented a "New Soldier" training program. Within 24 hours of arrival, the squadron conducted the following training: a welcome briefing, the locations of subordinate units, the squadron's mission, the squadron's task organization, the squadron's chain of command, and the soldier's troop assignment. Within 24 hours of being assigned to a troop, the squadron conducted the following training: the location of the soldiers' assigned unit in relation to other units, an updated ROE briefing, a lessons briefing, a current Division, Brigade, and Squadron policies briefing, a General Order No. 1 briefing, a mine awareness update, a troop mission briefing, a troop task organization briefing, an issue and account for ammunition, a TA-50 shakedown, and a PMCS verification. During inprocessing, the troop also offered a "tick shot" to the new soldier and assigned him to a platoon. Upon arrival at the platoon, the soldier participated in squad drills and would "right-seat" with a seasoned soldier learning and sustaining individual and crew skills to support the daily mission.**

GATHERING INTELLIGENCE II

DISCUSSION: The International Police Task Force (IPTF) was given a list of the United Nation's vehicles stolen during the war in Bosnia. With this information, IPTF officers patrolling in Orasje identified one of the stolen vehicles parked at a bar. The vehicle had FWF license plates and was painted camouflage. The vehicle was equipped with the same radio system that is currently being used by the IPTF. On the same day, a mini-van suspected of being stolen was also identified. This vehicle had been repainted and was labeled as an ambulance for the Brcko canton. The emergency medical crew using the vehicle did not respond to questioning when approached. Again, the vehicle was equipped with the same radio system used by the IPTF.

☛ **TTP!!! The fact that some of the stolen vehicles were equipped with similar radio systems as the IPTF may indicate that various factions have the capability to monitor IPTF radio transmissions. This may adversely affect the IPTF's ability to perform their mission and could be an OPSEC risk to TFE units working with the IPTF.**

It is likely that stolen vehicles will be repainted and the license plates replaced. One way to identify a vehicle is to check the vehicle identification number (VIN). VINs could be provided to checkpoints to assist in identification of stolen vehicles. If the VIN was removed, it may be an indication that the vehicle is stolen. The most common location of the VIN is on a steel plate located where the dashboard and the windshield meet. It is usually located on the driver's side of the car. The easiest way to view this VIN plate from the outside of the vehicle is to look through the windshield at the base of the dashboard where it meets the windshield.

Soldiers operating checkpoints should be suspicious if they find a vehicle that has a unique radio system (similar to those of the IPTF or IFOR). This also indicates that the vehicle may be stolen. The IPTF believes that Brown and Root utility vehicles are particularly at risk for theft.

Stolen vehicles with UN markings present an even greater danger. These vehicles could possibly be used to gain access to TFE bases. The potential to use these vehicles as a transporter of some type of car bomb exists. TFE base guards should consider comparing stolen VINs to UN vehicles that enter any TFE base.

GATHERING INTELLIGENCE III

DISCUSSION: A TFE unit reported an unruly crowd of approximately 100 FWF personnel on the Modrica Bridge. Some of the individuals were spitting, throwing small rocks and blocking the road. The unit coordinated with the IPTF and the Modrica police chief. An adjacent unit discussed the situation with the Gradacac IPTF who stated that they would also coordinate with the Modrica police. The unit, in turn, coordinated directly with the Modrica police.

The crowd eventually dispersed about an hour later. The Modrica police chief stated that the spitting and rock throwing was not directed at the IFOR. He said the crowd was composed of young males who were being inducted into the army. The crowd got drunk and out of control. He stated that these incidents occur whenever the army has a recruiting drive.

☛ **TTP!!! When factions have recruiting drives for military inductions, TFE units may expect an increase in unruly behavior. This could result in a civil disturbance. "When and where will recruiting drives occur?" may be an Information Requirement (IR) for TFE units.**

The unit ensured redundancy of coordination. Not only did they request that the IPTF coordinate with the Modrica police, the unit also coordinated directly with the Modrica police. This may seem as a waste of effort - - but it is not. Redundancy is often paramount to successful command and control.

As TFE internalized, ". . . maintaining law and order remains the responsibility of the FWFs parties and local civil authorities." The coordination with the TFE units, the IPTF and civil police was key to quelling the disturbance.

TFE HANDLES CIVIL DISTURBANCES

DISCUSSION: There were a growing number of incidents in which FWF families left the Federation, crossed the Zone of Separation, and attempted to rebuild their previous homes. In Mahala, Ministry of the Interior Police armed with pistols and sticks evicted the FWF families. Local radio stations began broadcasting messages encouraging locals to gather outside the IPTF Headquarters in Mahala to protest the action. The unruly mob trapped the IPTF officers inside their headquarters. Within a short time, a convoy of 250 personnel began moving from Zvornic toward Mahala to join the mob. The situation was escalating.

☛ **TTP!!!** **TFE successfully dealt with this and other similar situations using a technique which can be described using the key words: Isolate; Dominate; maintain Common Situational Awareness; and employ Multi-dimensional, Multi-echeloned Actions (IDAM).**

ISOLATE **in time and space the trouble spot from outside interaction. The brigade set up an inner ring of checkpoints around Mahala to limit ingress while Kiowa Warrior helicopters screened the flanks. The Division sent AH-64 Apache Attack Helicopters to overwatch nearby Jardan (a Republic of Serbska Special Police weapons storage site) while providing a VISIBLE presence.**

DOMINATE **the situation through force presence and control of information resources. The Brigade's overwhelming combat arms force presence at the checkpoints, coupled with the attack helicopter overflights of Zvornic, dissuaded entry into Mahala by potentially destabilizing elements. Predator, Pioneer, AH-64 Apache Attack Helicopters, and OH-58 Kiowa Warrior overflights provided real-time situation reports — ensuring TFE units knew "ground truth" at all times.**

COMMON SITUATIONAL AWARENESS **requires timely, accurate, complete, multi-source reporting. In the case of Mahala, TFE received reports from a broad spectrum of sources: brigade checkpoints around Mahala; Kiowa Warriors reporting on movements in and around Mahala; AH-64s overwatching nearby Jardan; IPTF; and European Community Civil Monitors. In addition, TFE maintained area coverage with Predator and Pioneer UAV platforms. These reports were relayed to each unit involved in the operation,** ***AND*** **each TFE brigade was kept informed.**

MULTI-DIMENSIONAL, MULTI-ECHELONED ACTIONS. **While the Brigade handled local security at Mahala, TFE headquarters focused its efforts on the larger tactical and political spectrum. Through their efforts, the President of Serbska and the Tuzla Canton Mayor made calls to Mahala, while the Minister of the Interior and COMARRC flew to Mahala. TFE prevailed on local radio stations to stop inflammatory broadcasts and began broadcasts designed to quell and disperse the crowds.**

Local officials and police have the responsibility to ensure the safety of their citizens -- including UNHCR-sponsored refugees. IFOR *assists* this process by providing general military security and by facilitating negotiations.

SUSTAINING GUNNERY SKILLS

DISCUSSION: During Peace Operations, company and troop Master Gunners play a major role in sustaining gunnery skills. METT-T will drive training. Often, Master Gunners will not have the appropriate resources or time to conduct dedicated gunnery training. However, during extended deployments, Bradley and tank crews lose gunnery skills unless commanders and Master Gunners incorporate gunnery training into every-day missions and make use of the scarce resources available. Some examples of sustaining gunnery skills observed include:

Case 1. Near one base camp, there was not enough available land for the construction of a Bradley Crew Proficiency Course (BCPC). The unit Master Gunner identified a stretch of road free of mines and infrequently used by local civilians. The Master Gunner directed engineers to grade the road and push earth to create hasty "battle positions." Tree lines were located on each side of the road. The unit Master Gunner placed full-scale targets in clearings within the tree line. A Bradley would start at one end of the two-mile long course and use the precision gunnery system to engage 12 targets along its length. Once the Bradley came into contact with the target, the Master Gunner would evaluate the crew's response.

Case 2. One unit Master Gunner attended a three-day Precision Gunnery System (PGS) trainup at Taborflava Training Area (TTA). After completion of the training, the Master Gunner returned to his unit and conducted a train-the-trainer program. The Master Gunner arranged to teach the PGS class at one of the unit's checkpoints. He gave classes on the use, installation, and capabilities of the PGS to personnel who were not actively manning the checkpoint. This training made it possible for the unit to maximize the time allotted to conduct the BCPC in theater and at TTA.

Case 3. One unit Master Gunner was issued Single Infantry Target lifters instead of the standard tank target lifter that his unit required. The infantry lifter is designed to lift 1/10-scale Bradley targets but is not sufficiently powered to lift 1/2-scale tank targets. The unit Master Gunner fabricated 1/2-scale cardboard targets light enough for the infantry lifter to support. The targets are not as durable in weather and wind as the standard targets, but are sufficient to conduct training.

☛ **TTP!!! During extended deployments, Master Gunners are challenged to sustain gunnery skills. Unit Master Gunners must use creative thinking and ingenuity to overcome training resource problems and establish training programs to maintain these highly perishable skills.**

PHYSICAL TRAINING

DISCUSSION: A decrease in muscular conditioning, leading to a drop in physical fitness levels, occurs rapidly when regular physical training stops. This change can occur within two to four weeks of reduced physical activity. This affects muscular strength and endurance (MSE), cardio-respiratory endurance (CR) and flexibility. As a result, soldiers have a more difficult time performing their duties, and fatigue occurs earlier. The purpose of physical training is to enhance combat readiness.

☛ TTP!!!:

- **Within two to four weeks of a deployment in which soldiers cannot conduct regular physical training, fitness levels drop.**
- **Maintaining MSE and flexibility fitness levels are easier than maintaining CR fitness levels.**
- **Due to METT-T constraints, commanders may have to curtail standard physical training due to weather or to maintain force protection. However, soldiers should conduct physical training as the situation allows.**
- **Continuous operations require commanders and leaders to develop individual physical training programs. Commanders should use unit master fitness trainers to ensure each soldier has developed a sound program that encompasses all aspects of physical fitness (flexibility, muscular strength endurance, and CR endurance). While deployed, soldiers should conduct physical training 3-5 days a week. The following table provides recommendations to help establish physical training programs.**

	Frequency	***Intensity***	***Time***
Flexibility	Three times per week	Hold to tension, not pain	Hold each stretch 10-15 seconds for warmup/cool-down and 30 seconds for flexibility improvement
MSE	Minimum of two times per week	Temporary muscle failure	30-40 minutes
CR	Minimum of three times per week	70-80 percent Max Heart Rate MHR=220-age	20 minutes or longer

RELATIONS WITH FACTIONS

SITUATION: Elements of an Armor Task Force (TF) established temporary checkpoints to block traffic along Route Sparrow, the major link between Han Pijesak and Sokolac. The Armor TF used the checkpoints to support an ARRC Operation. The aim of the checkpoints was to prevent the movement of traffic into an area where the Italian Brigade from Multinational Division, Southeast (MND-SE), was destroying confiscated munitions. Due to strained relations during the previous weeks, the Armor TF feared that local civilians in the area would view the destruction of confiscated munitions coupled with the checkpoints as provocative; the Armor TF took measures to prevent local hostility. They developed the "Dobro" Donut technique as a pre-emptive measure to counter the potential hostilities by angry motorists.

DISCUSSION: What is the "Dobro" Donut technique? The Serbo-Croatian word "Dobro" means "good." As the name implies, the technique has something to do with good donuts. In the vicinity of the established checkpoints, the Armor TF erected tents with donuts and coffee. At the tents, Serb motorists could relax and enjoy a hot beverage and a snack while waiting for the road to reopen. This simple gesture by the TF to make an inconvenient situation better for motorists had the desired effects. The motorists were impressed. Consequently, they willingly cooperated with the operation.

☛ TTP!!!:

- **The Dobro Donut technique does not fit into the scope of traditional operations, but it was a very effective tool in preventing a potential civil disturbance.** ***Local nationals appreciate any simple gesture by TFE soldiers to make inconvenient situations better.***
- **A thorough mission analysis, to include good Intelligence Preparation of the Battlefield (IPB), can identify possible shortcomings in the execution of a mission. Creative thinking, by incorporating the entire staff, generates unique solutions to possible problems in Peace Operations.**

CONVOY OPERATIONS II

SITUATION: Units from a Transportation Battalion conduct daily convoys to and from Camp Tampa and the ISB. A one-way trip is 200 miles and takes an average of 8.5 hours.

DISCUSSION: The Transportation Battalion drove two million miles throughout the theater. The battalion averaged one accident per 169,000 miles traveled. Its soldiers operate professionally and traveled routes in all types of weather and at different times of the day. The soldiers have an advantage over those who have no experience driving in theater. The unit has faced the following hazards:

- **Weather** - Weather has a significant effect on convoy operations. Rain, fog, snow or sleet will significantly degrade the roads.

- **Road Conditions** - Road conditions are generally poor throughout theater. Numerous potholes make driving challenging. Drivers fight grooves in the road that are smaller than a HMMWV's wheel base. Hitting these grooves or potholes cause vehicles to unexpectedly lurch to one side of the road. This constant battle with the road causes drivers to fatigue more rapidly and readily.

- **Obstacles** - Obstacles may be moving or stationary. Civilian vehicles challenge convoy drivers as they weave in and out of the convoy or block traffic. Children along the route are another obstacle. They see no danger in standing in or next to a road and they do not understand that vehicles cannot stop immediately.

☛ TTP!!!:

Bottom Line: Training + Rehearsal + Situational Awareness = Success

- **Leaders can fight fatigue. Ensure drivers get proper rest before each movement. Stop frequently along the route. This provides an opportunity to stretch, relax, and regroup. Take 15-minute breaks every two hours.**
- **Drivers and convoy commanders are responsible for maintaining proper distances, speeds, and vehicle control. Proper speeds and vehicle distances change based upon weather, obstacles, and road conditions. A good internal communications plan can aid in controlling convoy operations.**
- **Ensure that each vehicle is prepared for the trip. This includes proper PMCS and rehearsing self-recovery operations should a vehicle break down.**
- **Train new soldiers on winter driving skills because they have not faced a Bosnia winter before.**

OPSEC

DISCUSSION: AR 530-1, *Operations Security (OPSEC),* 3 Mar 95, defines OPSEC as a command responsibility. The Commander ensures the implementation of an OPSEC program by assigning responsibilities to a specific staff section or individual. However, OPSEC, as with all security issues, rests with each individual. Units and individuals may become complacent regarding OPSEC posture within TFE. This may be due to the current "Peacekeeping" role. However, there is a real threat to all TFE personnel and operations. Everything soldiers do, say, and the actions they take, provide an adversary "bits and pieces" of information. By gathering enough of the pieces, they can develop a good look at the "big picture" of TFE operations.

The TFE goal, through Good OPSEC Procedures, is to keep the adversaries guessing. Denying those "bits" of sensitive information, classified or unclassified, will deny them a look at our operations. Unclassified information may be sensitive (i.e., the loss, misuse or unauthorized access to which could adversely affect the national interest). Enough sensitive information may possibly be classified, if it reveals friendly plans, operations, or vulnerabilities. It is up to all soldiers and civilian employees to practice "Good OPSEC" by using common sense and following sound security practices.

☛ **TTP!!!: Here are several good OPSEC practices to follow:**

- **Never discuss classified or sensitive information in unauthorized areas (i.e., hallways, latrines, dining facility, PX, etc.). There are numerous local national employees working on the installation. Do not assume they cannot speak English.**
- **Local national translators and interpreters do not have security clearances. They are not authorized access to classified information. Never give sensitive unclassified information to translators or interpreters to photocopy. Again, remember "Need-to-Know."**
- **Protect all classified material. Mark it properly; transport in sealed or locked containers; provide access only to those who have the proper clearance and a valid need-to-know; use cover sheets when working with classified; and destroy by burning or by shredding in an approved shredder.**
- **Process classified material only on computers authorized for classified processing. Mark your computer for the level it is authorized to process. Protect your system with a password and do not give your password to anyone else. Mark all diskettes with the highest classification of material they contain. Ensure your screen is not facing the doorway, window or in an area where unauthorized individuals may read it.** ✪

CHAPTER III
SAFETY

RAIL DEPLOYMENT ELECTRICAL INJURY

- **During a halt in rail movement, a soldier climbed on top of a vehicle to secure equipment.**
- **The soldier came close enough to overhead power lines to allow a high voltage arc; the soldier was in critical condition with extensive burns over fifty percent of his body.**
- **"Old soldiers" know the danger of overhead power lines in the European environment; "young soldiers" have less European field experience and are less aware of the danger of contact or mere proximity to high voltage overhead lines.**

FIRE SAFETY I

There were seven tent fires in TUZLA in one month:

In four cases, the fire began when a soldier attempted to refuel either a space heater or a Coleman Lantern inside a tent while the device was still lit (or immediately after extinguishing it). In two cases, electric appliances overloaded the wiring (hair dryer, microwave oven). In one case, there was an electrical short in the wiring.

☛ **TTP!!! Refuel tent stoves outside of the tent and make sure the stove is cooled down prior to refueling.**

☛ **TTP!!! Do not overload the electrical circuits. The system is designed for small, low wattage devices, not devices with motors or heating elements.**

CONVOY RISKS TO CHILDREN

- **A civilian vehicle struck and seriously injured a child standing by the road to observe an IFOR convoy. No IFOR vehicle was directly involved.**
- **Children are invariably curious about military convoys. This curiosity is amplified if military members of convoys pass food or trinkets to children.**
- **UN statistics prior to TFE arrival indicate that several children were killed and seriously injured in the past trying to get handouts from passing convoys.**
- **Although soldiers have a tough time not responding to children in need, this impulse must be restrained for the safety of the children.**

WINTER DRIVING

- **While driving down a snowy hill at approximately 30-35 MPH, a HMMWV driver braked when the vehicle in front of him began to slide.**
- **Due to conditions on the snowy road, the HMMWV also began to slide.**
- **To compensate for the slide, the driver put the HMMWV in neutral and applied the parking brake, putting the vehicle out of control.**
- **The HMMWV passengers attempted to jump from the vehicle.** ***One of the soldiers was crushed under the vehicle and was in critical condition.***

☛ **TTP!!! Never jump from a moving vehicle. You are more likely to be crushed by a vehicle after jumping out of it than if you stay in it.**

☛ **TTP!!! Exercise proper procedures for winter driving. When in a slide, gradually apply your brakes. Never lock up the brakes, or engage the parking brake. Downshifting the transmission, rather than using the brakes, can also minimize sliding.**

☛ **TTP!!! If movement is permitted under red road conditions, use chains and exercise extreme caution, particularly with respect to vehicle speed.**

FIRE SAFETY II

SITUATION: Contract personnel attempted to refuel a hot kerosene heater with MOGAS inside a laundry tent. *The laundry tent burned completely, destroying everything within the tent, damaging two adjacent tents and causing minor burns to one individual.*

☛ **TTP!!! Train all personnel that will operate tent heaters on their use -- to include civilians and contractor personnel.**

☛ **TTP!!! Mark fuel cans by type of fuel and store different types of fuel in separate locations.**

☛ **TTP!!! Refuel heaters outside the tent and do not refuel hot heaters.**

☛ **TTP!!! Establish an alarm system for your area; notify all personnel of the alarm and practice fire drills.**

☛ **TTP!!! Ensure that a positive means of notifying all emergency response personnel is established and that all personnel know how to call for emergency response.**

☛ **TTP!!! Ensure that fire extinguishers are available, of the proper type, and charged, and that everyone in the area is knowledgeable of the operation of the extinguisher.**

WIND STORM SAFETY

SITUATION: A severe wind storm -- gusting from 50 to 60 MPH -- hit many lodgment areas. Many tents were leveled, equipment was damaged and several individuals suffered injuries.

☛ **TTP!!! It is very important to capture and quickly disseminate severe weather warnings to the lowest level possible.**

☛ **TTP!!! Notification of wind storms, if possible, allows preventive actions to harden tents:**

- **Sandbag the base of tent walls to a depth of two to three bags to keep wind from entering between the tent and the ground.**
- **Ensure all tiedown ropes are tight and stakes are driven to full depth in the ground.**
- **Place sandbags on top of the stakes to keep them in place.**
- **Keep all tent flaps closed.**
- **Drop tents that are not essential.**
- **Build windbreak walls in front of tent doors.**
- **Lower antennae or ensure they are well staked with ropes tight.**
- **When reacting to a wind storm, helmets and body armor prevent injuries from flying debris.**
- **Never touch downed wires or electrical generator cables because they may be live.**

ACCIDENTAL DISCHARGES I

SITUATION: TFE experienced several accidental discharges of both individual and crew-served weapons; fortunately no one was injured. Two examples are:

- **An NCO was instructing a soldier on how to place an M60 MG into operation while manning a guard post. One round was chambered and accidentally fired.**
- **A guard placed his M60 MG into an improper readiness posture (rounds in the feed tray, feed tray cover closed, bolt open, selector switch on FIRE) and four rounds were accidentally fired.**

The key to prevention of accidental discharges is training and basic soldier discipline.

☛ **TTP!!! Train soldiers on proper employment of weapons before guard duty.**

☛ **TTP!!! NEVER USE LIVE ROUNDS AS TRAINING AIDS.**

☛ **TTP!!! Always keep weapons at the assigned Force Protection status. *NEVER* exceed the Force Protection level unless ordered or required by the ROE.**

☛ **TTP!!! Leaders need to check soldier knowledge of weapons systems and Force Protection readiness levels.**

☛ **TTP!!! Firearms safety should be stressed at all times. The most basic rules include:**

- **Muzzle awareness.**
- **Clear all weapons *before* and *after* using the weapon.**
- **Never load a weapon unless you are prepared to fire it.**

ACCIDENTAL DISCHARGES II

DISCUSSION: A unit constructed an area for clearing weapons that includes a maze, lined with concertina wire, that leads to the clearing barrels.

☛ **TTP!!! After taking the magazine out of the weapon and placing it on a stand, thereby removing the source of the ammunition, the soldier enters the maze. The soldier has to concentrate on what he is doing or he will walk into the concertina. The move to the clearing barrel is a concentrated effort with the soldier focused on the task at hand - - clearing his weapon. Once the soldier reaches the barrel, he clears his weapon, exits the maze and secures his magazine. An NCO overwatches the entire process.**

The unit introduced a *lesson* from small unit operations outlined in training manuals for actions when exiting and re-entering forward friendly lines. The fact that soldiers are not in a combat zone should not deter from executing the task to the same standard, only under different conditions. The construction of the maze not only provides realism to re-entering friendly lines, it also causes soldiers to think about the task they have to execute. The "clearing maze" is a great tool to ensure situational awareness, keeping soldiers "heads in the game."

☛ **TTP!!! The source of the ammunition must be removed before clearing the weapon.**

DANGERS OF GIVING AWAY COMBAT RATIONS

SITUATION: A Bosnian boy was admitted to a hospital because of injuries sustained from an exploding bottle. *He had taken a self-heating device (allied heat-tab type) from a package of combat rations and placed this device in a bottle with some water. Steam was formed and the bottle exploded, wounding the boy in the foot, hand and face.* Rather than throwing surplus combat rations away, IFOR troops often give the rations to needy civilians.

Many useful things can be dangerous in the hands of children or other people who do not understand directions written on the packages. To mention a few:

- ***Food self-heating devices*** **are dangerous!**
- ***Fuel tablets*** **may be mistaken for food.**
- ***Water purifying tablets*** **may be mistaken for medicine.**
- ***Silicone crystals*** **used for removing moisture may be mistaken for spices.**
- ***Remember!*** **Although people may be able to read their own language, they do not necessarily understand instructions in other languages.**

The same extra caution you use to keep these and other potentially dangerous items away from children at home should be also applied here. ***Do Not Give Away Combat Rations!***

FIRE SAFETY III

DISCUSSION: ***An M2 Burner exploded burning two soldiers and starting a fire.*** Alerted by the guard, the aid station and fire department quickly responded. The casualties were treated and evacuated and the fire fighters began to combat the blaze. The local fire department and Brown and Root also responded to the call and assisted in fighting the fire. Assessing the situation, the Army Fire Chief determined the direction of the wind and employed his force to counter the fire from a location that was upwind. The fire was contained and eventually burned itself out.

FACTS:

- **The soldier was licensed, certified and was being supervised by an NCO.**
- **Four M2 burners exploded. It was assessed that three to four sympathetic explosions occurred.**
- ***The walls and ceilings of the dining facility were made of composite wood, which may have contributed to the rapid spread of the fire.***
- ***The hydrants were checked that morning and they were turned on. However, the local utility companies turned the water off later that day. As a result, water trucks had to be used.***
- **The fire spread through the electrical system and flammables that were in the kitchen. The windows burst, feeding the fire air and contributing to the spread of the flames.**
- **Approximately 15,000 gallons of water were used during the operation.**
- **Rooms with doors closed were not damaged by the fire.**

FIRE SAFETY IV

DISCUSSION: The onset of cold weather and the distribution of heaters creates the need to emphasize fire prevention awareness. During the winter of 1995, TFE experienced too many fires. The majority were tent fires. Most of these tent fires were attributed to soldiers attempting to refuel heaters that were still lit or recently turned off.

☛ **TTP!!!:**

- **Refuel heaters outside of tents. Do not refuel hot heaters.**
- **Mark fuel cans by type of fuel and store different types of fuel in separate locations.**
- **Train all personnel who will operate tent heaters on their safe use. Do not forget to train civilians and contractor personnel.**
- **Establish an alarm system for your area and practice fire drills.**
- **Ensure that a positive means of notifying all emergency response personnel is established and that all personnel know how to call for emergency response.**
- **Ensure the correct number of the proper type of fire extinguishers is available. Make sure they are properly charged and everyone in the area knows how to safely operate the extinguishers.**
- **Do not dry clothes on top of heaters.**
- **Do not cook on top of heaters.**
- **Place heaters out of high traffic areas.**
- **Do not leave heaters unattended. Use fire guards at night or turn the heater off.**

TIRE CAGES

The following TTP are the result of an investigation by the *TFE Safety Office.*

DISCUSSION: When replacing tires on a HEMTT wrecker, the operator determined that the tires needed to be inflated. The tire was placed into the proper sized tire cage and the operator began to inflate the tire. At an estimated 50 psi required for the wrecker's tire pressure (maximum 100 psi), the tire's inner tube burst (reason unknown). *The result was minor contusions to the operator's arm.* In this instance, the quick-release locking adapter was not fastened to the end of the extension. In another instance, the quick release was installed and the tire was placed in the cage. Again, at approximately 50 psi, the inner tube burst causing the operator to *receive minor bruises to his thigh due to the blast.* The blowout caused the tire cage to increase in size from the original 2' 5 3/4" to 3' 6" and the ring split was twisted 12" out of shape.

An investigation as to why the tires burst was conducted.

☛ **TTP!!! Fatalities have resulted from exploding tires that were not placed in the cage. The lesson *confirmed* that the tire cage can save your life and prevent serious injury.**

☛ **TTP!!! Although both soldiers received minor injuries from the blast, the injuries of the soldier who had the quick release adapter installed were less extensive.**

TOWING THE T55 TANK

The following lessons are the result of an investigation by the TFE Safety Office.

SITUATION: While being towed by a M88 recovery vehicle, a T-55 tank veered and hit a car, causing significant damage (high dollar repair) to the civilian vehicle.

DISCUSSION: The FWF did not have the appropriate equipment to move their tanks out of a designated area. A HETT was not available. An M88 Recovery vehicle was used. The faction officer required that the T55 be towed forward with a driver in the driver's compartment. The officer also insisted that the M88 ***not*** be trailed by a brake vehicle. The preferred method of using a tow bar could not be used due to the attachment limitations of the T55. It was also decided that crossed cables would be used to tow the tank. The crossed tow cables connected the T55 at a point closer together than on NATO tracked vehicles and the cable intersection was further back toward the towed vehicle, allowing it to have side-to-side movement. During turns, the M88 had to make an exaggerated swing to maneuver the tank clear of the corner. The tank driver had veered several times during the movement, presumably to avoid the exhaust of the M88. The convoy was moving at about 2-5 KPH. After approximately 2 kilometers, the tank again veered to the right and came to an abrupt stop - - the tank had hit the parked car.

☛ **TTP!!! Along with the fact that a brake vehicle was not used, another cause of the accident was a direct result of a driver being in the towed tank. Do not allow a driver in the towed vehicle!**

☛ **TTP!!! If the tow bar cannot be attached and tow cables are used, a brake vehicle should always be used to keep the towed vehicle under control.**

☛ **TTP!!! Means of transport should be in the following priority: (1) HETT-loaded transportation support (2) Tow cables with double shackles to adapt to the T55 tow eyes (3) Tow cables with a lead and brake vehicle.**

EYE PROTECTION SAFETY

SITUATION: A soldier was performing routine operator maintenance on a FIST V. The soldier loosened the idler arm grease fitting allowing the track tension to slacken. The fitting, which was under high pressure, came off and ***grease was sprayed at a high velocity in the soldier's face and left eye. The capillaries in his eye burst which resulted in bleeding between the lens and cornea***. The unit's combat lifesavers quickly responded and stabilized the eye injury.

DISCUSSION: Maintenance was being conducted in accordance with the appropriate operator's manual and the lubrication order was on-hand. The operator's manual and lubrication order warns that the lubricant is "under high pressure" and advises to "loosen the bleed plug slowly to avoid injury to personnel." The manual does not provide specific standards for the safe conduct of this procedure.

After an investigation of the accident, the *Task Force Eagle Safety Office* identified the following lessons:

- **Protective eyewear should be worn when working in an environment where the potential is present for projectiles or airborne debris, high pressure and chemicals.**
- **Personnel should use a socket wrench with an extension to allow some distance to be maintained in the event the fitting comes off and the socket contains loose fittings.**
- **Never use an open wrench, because if the fitting comes off, it can become a high velocity projectile.**

The Task Force Eagle Safety Office compiled the following statistics on eye injuries by category, number, and causes. In all instances, eye protection *was not* worn.

ABRASIONS:	**1**	**METAL SHAVINGS**
BLUNT TRAUMA:	**5**	**SPORTS, MANEUVER**
CHEMICAL BURNS:	**2**	**ACID AND MOGAS**
FOREIGN OBJECTS:	**4**	**STICKS, TOOLS, DUST**
LACERATIONS:	**1**	**PRESSURIZED GREASE**

AMMUNITION STORAGE RISKS I

DISCUSSION: One of the greatest (but often overlooked) threats to TFE soldiers can be found within the base camp perimeters. To remain mission ready, commanders chose to keep their basic load ammunition in the immediate vicinity of their barracks (in armored vehicles, trucks, trailers, or on pads). These storage areas involve acceptance of risks to personnel, facilities, and equipment.

Even so, storage of ammunition should expose the *minimum number of people* to the *smallest quantity of explosives* for the *shortest period of time.* How much ammunition is too much? How close is too close? How can commanders analyze the hazards and manage the risks associated with ammunition basic load storage?

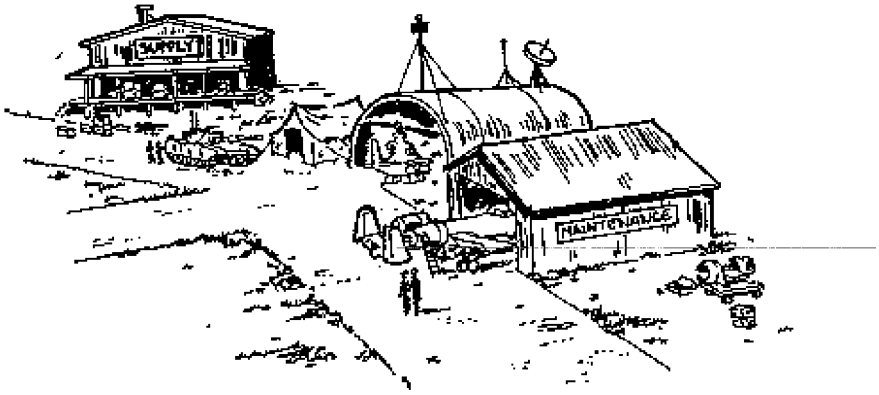
Army publications dealing with explosive hazards are very technical. The guidance is often conflicting and impractical for field operations. Soldiers and leaders simply want to know how much ammunition they can safely store, and how close can they keep it.

Safety officers, Quality Assurance Surveillance Ammunition Specialists (QASASs), and Ammunition Specialists are available to help them make these critical decisions.

☛ TTPs!!!

- **Unpack only the quantity expected to be immediately fired.**
- **Properly repack ammunition prior to transporting.**
- **Replace safety devices prior to repacking, for example, shorting clips on 2.75-inch rockets, pads protecting primers on guns or mortar ammunition.**
- **Segregate misfired or unserviceable ammunition from serviceable.**
- **Do not carry fire-producing items into ammunition storage areas.**
- **Use DD Form 626 (Motor Vehicle Inspection) to inspect the vehicles to be loaded with munitions.**
- **The maximum Net Explosive Quantity (NEQ) per site must not exceed 4,000 KG (8,820 lb).**

The strictest and safest ammunition storage guidance recommends 550 meters separation of ammunition from populated areas. If this is not possible, contact the Safety Office to learn how to reduce the hazard within the operational constraints.



AMMUNITION STORAGE RISKS II

DISCUSSION: A typical Combat Load supporting a Cavalry Troop would total nearly 2,000 Kilograms of Net Explosive Quantity (NEQ). Stored under the guidance of AR 385-64, the unit would separate the load from populated areas by 381 meters.

Weapons System	*Combat Load*	*Net Explosive Quantity*
4 M1	**5x 120mm APFSDS-T**	**180.5 KG**
	15x 120mm HEAT-MP-T	**58.5**
13xM3	**450x 25mm APDS-T**	**569.2**
	450 25mm HEI-T	**722.4**
	6 TOW 2B	**400.1**

	Total	**1,929.7 KG**

Blast effects to exposed sites/personnel can be forecasted based on the total NEQ as follows:

ZONE 1 = up to 30 meters (People killed, vehicles overturned/crushed, buildings destroyed.)

ZONE 2 = up to 55 meters (Injuries/deaths, eardrum damage, severe vehicle body damage, near total building destruction.)

ZONE 3 = up to 95 meters (Injuries, one percent eardrum damage, extensive vehicle body damage, 50-percent building.)

ZONE 4 = up to 120 meters (Debris injuries, temporary hearing loss, little vehicle damage, 20-percent destruction.)

ZONE 5 = up to 251 meters (Minor personnel injuries, no significant vehicle damage, minor building damage.)

FRAG ARC = up to 381 meters (People in the open are subject to serious fragment injury or death.)

☛ **TTP!!! Leaders aware of exposures can minimize risks within operational constraints. When circumstances prevent the elimination of risks, they must consider the probable targets (loss of personnel and equipment) and evaluate the missions that could be affected should a maximum credible event occur.**

TRANSPORTING AMMUNITION

SITUATION: A TFE unit representative contacted the Division Ammunition Office (DAO) requesting information concerning the shipment of unserviceable rounds to the ISB. As shipping arrangements were discussed, it was discovered that the ammunition load was not inspected for shipment. Follow-on discussions with the TFE-assigned QASAS led the DAO section to realize there were many operations involving the movement of ammunition within the area of operations that do not always involve the ammunition inspector.

DISCUSSION: Inspectors are not available at every ammunition storage location to verify compliance with the standards. Uploaded vehicles that move across public highways and through populated areas, haul ammunition to and from ranges, or to and from base camps are exposed to reckless local national drivers, and hazardous road conditions. **AR 55-355, *Prevention of Army Motor Vehicle Accidents,*** provides detailed requirements. For instance, a DD Form 836 should be executed for all drivers on all shipments of ammunition and/or explosives.

☛ **TTPs!!! Some safe handling precautions include:**

- **Trucks should be inspected using a DD Form 626 before loading. Deficient equipment should not be utilized.**
- **Bulk explosives may be carried on the same vehicle. Detonating agents should not be packaged or carried with the bulk items.**
- **Explosives and ammunition should not be near the exhaust system of the transporting vehicle.**
- **When transporting artillery ammunition, all unpackaged or unboxed projectiles should be stowed parallel to the side of the truck, and properly chocked or otherwise secured to prevent rolling from one side of the truck to the other.**
- **The loads should be blocked, braced, stayed or restrained IAW AMC drawings.**

☛ **TTP!!! DD Form 836 describes the characteristics of the explosives, fire hazards, methods to be used in fighting fire involving the truck or cargo, the missile distance in case of explosion, proper distance to maintain from other trucks, and any other information which will bring about safe delivery of the shipment.**

5-TON ACCIDENT FATALITY

OBSERVATION: An M813, 5-Ton Cargo Truck towing a generator trailer rolled over. Result: one fatality, one injured, and one destroyed truck.

DISCUSSION: The vehicle was traveling along MSR Tyler between Kaniza and the Ammunition Holding Area (AHA). The road at that point is narrow and makes an "S" turn. The road surface was wet and possibly muddy. The brakes on the trailer had been locking up earlier in the day, so they had been disconnected prior to the time of the accident. It was reported that the soldier team driving the truck had gotten about four hours of sleep the previous night. The road is elevated approximately 10 to 15 feet above the surrounding terrain. After the accident, the top of the upside-down truck was about 15 feet below the level of the road — submerged.

What happened?

- The 5-Ton Cargo truck has a high center of gravity.
- Although seatbelts were installed, the driving team was not wearing seatbelts.
- 5-Ton truck tires are designed to perform best off-road; wet, muddy roads exacerbate this condition.
- The trailer brakes were disconnected — the trailer was just deadweight, pushing the truck.
- The driving team had about 4 hours sleep the night before.

☛ TTP!!!

1. *SLOW DOWN. CHECK CONDITIONS.* Although the exact speed of the vehicle is not known at the time, speed appeared to be a contributing factor.

2. Wear seatbelts.

3. Proper brake application. Ensure you do not lock up the brakes causing skidding and loss of control.

4. Careful route selection. Consider the vehicle, the factors of METT-T, and complete a risk assessment for each route.

5. Ensure that equipment is in proper working order. If the trailer brakes are not working, determine another course of action. Fix the brakes. Lowboy the trailer. Contact a maintenance team.

"Before any convoy moves, leaders will perform pre-combat checks. If any equipment does not meet standards, IT WILL NOT MOVE, and seat belts WILL be worn."

-- MG Nash, TFE Commander

PORTABLE KEROSENE HEATER

DISCUSSION: Kerosene heaters produce carbon monoxide gas. Every year thousands of people die or are seriously injured from carbon monoxide gas (CO). This poisonous gas is an odorless, colorless, tasteless, and nonirritating poisonous gas.

SYMPTOMS OF CO POISONING: ✷Frequent Headaches ✷General Weakness ✷Vomiting ✷Chest Pain or Pressure ✷Shortness of Breath ✷Fast Pulse ✷Dizziness or Lightheadedness ✷Dimmed Vision ✷Nausea

☛ **TTP!!!** When heaters are kept in good working condition and provided with adequate ventilation, they do not pose a risk. However, carbon monoxide concentrations are detected when heaters smoke or burn with a kerosene odor. Here are some useful measures that a person can take to ensure CO levels are kept at a minimum:

- **Use heaters only in well ventilated areas. If the heater is used in an area with less than 4,500 cubic feet (GP mediums are approximately 3,950 cubic feet), the door(s) to adjacent room(s) should be kept open or a window, door, or tent ceiling flap to the outside should be opened at least one inch.**
- **Kerosene or JP-8 contaminated with water will cause inefficient heating and increased incomplete combustion. Use only uncontaminated, water-clear kerosene or JP-8.**
- **Never place the heater in windy or drafty locations.**
- **If there is soot or a kerosene odor, or if the flame wavers, burns too high on one side, or smokes, adjust the burner to make sure that it is properly positioned in the groove. Rotate the burner left and right two or three times. When the burner is properly seated, it will move with little resistance.**
- **The flame should burn in an evenly balanced circle 3/8" to 3/4" over top of the burner. If the flame touches the wall of the heater, the wick is adjusted too high. And if the flame does not appear at the top of the burner, the wick is adjusted too low. Use the wick adjustment knob to adjust wick for proper exposure. If the wick adjustment fails, reinstall the wick to the proper height.**
- **Never refuel heaters inside a building or tent.**
- **Always make sure the heater is cooled down before refueling it.**

WINTER DRIVING

DISCUSSION: In winter months, TFE drivers face the harsh conditions of the Bosnian roads. The hazards of driving in winter are very real. To emphasize this point, the following accident was caused by harsh winter conditions. A soldier was driving A HMMWV down a snowy hill at approximately 30 MPH. A vehicle in front of the HMMWV began to slide and the HMMWV driver braked and began to slide too. To compensate for the slide, the driver put the HMMWV in neutral and applied the parking brake. As a result, positive control of the vehicle was lost. The HMMWV passengers then attempted to jump from the vehicle, and one soldier was crushed under the vehicle.

☛ **TTP!!!**

● ***Vehicle drivers need to adjust vehicle speed and following distances to meet road surface conditions.***

● **Leaders need to emphasize the importance of winter driving safety.**

● **When in a slide, gradually apply your brakes. Never lock up the brakes or engage the parking brake. Downshifting the transmission, rather than using the brakes, can also minimize sliding.**

● **Inventory tire chains to ensure their availability when needed. It is too late once the snow starts.**

● **Never jump from a moving vehicle. You are more likely to be injured by a vehicle after jumping out than by staying inside.**

● **Always wear seat belts.✪**

CHAPTER IV
MAINTENANCE

TOW2A MAINTENANCE I

SITUATION: A Bradley vehicle crew was occupying a guard post. The vehicle was overlooking the lodgment area perimeter and had the TOW launcher erected. During the course of normal operations, the crew shut down vehicle power. When the turret power was turned back on, *both TOW missiles accidentally launched.*

DISCUSSION: No mechanical problem with the weapon system was detected; however, this type of incident happened in the past. Obviously it can be very dangerous to have an accidental missile launch.

☛ **TTP!!! Apply the following techniques when turning your BFV (M2 or M3) power on or off:**

1. Do not turn off the turret power with the TOW launcher erected.

2. If you must keep the launcher erected, ensure you select a gun system (25mm or COAX) before powering down the turret.

NOTE: *The mechanical problem that caused the TOW missile misfire was identified. It had the potential to happen on any Bradley Fighting Vehicle. Until a repair can be made to the system, the original lesson applies:*

☛ **TTP!!! When the launcher is loaded, leave it in the down position. Erect it only for operational or maintenance reasons, and do not turn your turret power off with the launcher erected and loaded.**

TOW2A MAINTENANCE II

SITUATION: While conducting routine maintenance on the TOW2A missile using TM 9-2350-284-10-2, soldiers from an ADA unit identified that the humidity indicator in the missile had changed from blue to light blue in color. A completely white or pink indicator would mean the TOW is unserviceable. The soldiers took the initiative to order dessicant, humidity indicator cards, sealant, and lubricant. The unit also reported the condition to the Quality Assurance Surveillance Ammunition Specialist (QASAS). This action also helps TFE respond to higher command levels and management agencies on disposition and maintenance of the TOW.

DISCUSSION:

- **Ammunition is not manufactured for prolonged exposure to the environment. Ideally, ammunition should be kept in containers when not in use (although this is not always possible because some ammunition, such as the TOW2A, must remain uploaded for operational purposes). However, this often results in ammunition damage. Some types of ammunition rusts and others are dented. The TOW2A has parts that react to moisture in the air.**
- **The humidity indicator on the TOW2A alerts operators that there is moisture in the missile. The TM directs operators to replace the dessicant, lubricant, and seals to perform a validation check on the serviceability of the missile.**
- **The ADA personnel followed the correct procedure in identifying the problem, researching the solution in the TM, and notifying the experts. However, it is safe to say that some units are not aware of the problem and the proper procedures for rectifying it.**

☛ **TTP!!! When the TOW2A remains uploaded for extended periods of time, it is exposed to moisture in the air and may become damaged. This is not a situation to learn at the "moment of truth" when all of the missile's capabilities are needed.**

MAINTENANCE I

SITUATION: The following actual events illustrate that proper maintenance and PMCS must be performed by operators and that leaders must provide the time and resources to support this effort:

- **A HMMWV driver reported a vibration he noticed to his mechanics. When he was told it would take time to troubleshoot the problem, the driver responded that he didn't have time; his mission had priority over the needed maintenance. Soon after leaving the motor pool, the vehicle's front wheel fell off.**
- **A broken-down HMMWV on a convoy resulted in a prolonged halt to the entire convoy along with the loss of precious shop time for the numerous mechanics who had to accompany the vehicles of the recovery convoy. The cause of this tremendous waste of resources - a burned-out transmission that had been allowed to leak dry.**

DISCUSSION: Vehicles in a mobility intensive mission are critical. OPTEMPO is in overdrive, but there is no reason why vehicles should not be able to maintain the pace. The events described above are merely representative of the vehicle problems occurring within the U.S. sector. Regular PMCS and proper maintenance procedures cannot eliminate all of the problems that are experienced, but they may keep a piece of equipment running at that critical time.

☛ **TTP!!! The above situations need not occur. The old lesson is still valid, "that you will always have to make time to maintain, a little now, or a *lot* later."**

MAINTENANCE II

SITUATION: Some very valuable lessons were learned on maintenance from the D-Rear at Lukavac. Although the specifics of the lessons may not pertain to a particular unit (not everyone is assigned a Palletized Loading System), the theme applies to every soldier who performs Preventive Maintenance, Checks and Services. Read the Technical Manuals carefully and perform the maintenance to standard. Pay attention to where the manuals fall short in providing guidance. If you see something that does not make sense, bring it up to your supervisor.

☛ **TTP!!!** ***The Palletized Loading System (PLS).*** **The PLS was fielded to units just as TFE deployed. With its haul capacity of over 33,000 pounds, it became the champion prime mover for ammunition, MREs and various containerized retrograde loads. Like so many other high tech workhorses, the PLS presents an indestructible support asset, but to the contrary, it is maintenance intensive. This particular vehicle has over 100 grease points. It is especially important as the OPTEMPO increases with the redeployment that operators and supervisors follow proper Lubrication Orders (LOs).**

☛ **TTP!!!** ***The 5-Ton Tractor.*** **The 5-ton tractor, another prime mover for TFE, had its unique maintenance challenges. The 5-ton has fifth-wheel wedges that should be reversed to cushion heavy trailer loads over rough terrain or for "off-the-road" transport. Most tractor drivers following strict guidance of TMs were not reversing wedges since Bosnian roadways are paved. As a result, fifth-wheel mounting bolts were broken due to the numerous potholes in the main supply routes. The common-sense solution was and is to reverse the wedge allowing the cushioning movement under the heavily loaded trailers when not on smooth, paved roads.**

☛ **TTP!!!** ***The HMMWV.*** **HMMWV passengers should have noticed a distinct difference between the smooth ride of one vehicle verses the rough ride of another. This difference may be attributed to the partial exchange of biased tread tires for radials. As several HMMWV drivers learned, when swapping out tires, keep the tread the same for the front or back axles. If not all of the tires are going to be changed simultaneously, change them in pairs.**

VEHICLE WASHING

DISCUSSION: Any experienced NCO knows that it is important to clean/wash vehicles as part of the unit maintenance program. Tactical operations make washing more difficult, but still important. Clean vehicles are easier to maintain.

Over time, dirt and road contaminants create an environment where moisture remains in crevices long after the remainder of the equipment has dried. Organisms, such as mold, mildew, and even grasses and mosses, can begin to grow. These growths contribute to the deterioration of surface coatings, rubber, and plastic. Accumulation of dirt and mud retains moisture longer than a clean surfaces and accelerates the corrosion process.

☛ TTP!!!

● Despite the fact that vehicles will immediately be covered with mud during an operation, vehicles should be washed routinely to break the cycle of micro-biological growth which results in the destruction of paint/protective coatings and corrosion of metals.

● Prior to maintenance services, vehicles must be cleaned thoroughly. This will keep dirt, grit, and contaminants from entering bearings, fluid reservoirs or machined/close tolerance areas. In some cases, contamination can result in a repair that causes more damage than the original fault. Additionally, critical faults, such as worn suspension components, leaks, cracks and other damage, will be masked by dirt and accumulations of other contaminants.

● The few wash racks that exist are not necessarily located at or near high vehicle density areas or where equipment maintenance is routinely performed. Leaders need to plan PMCS convoys, allowing sufficient time and personnel to properly clean vehicles. Without proper PMCS convoys, vehicle cleaning is limited to headlights, windshields and a cosmetic wipedown of the exterior.

● During any deployment, leaders must establish vehicle-washing facilities at base camps where one or more organizational motorpools are established for more than two weeks. At a minimum, facilities must be collocated with DS maintenance facilities. Additionally, NBC training could be incorporated into the initial setup and operation of vehicle wash points as vehicle cleaning and decontamination require some of these same operations. NBC personnel are well versed on setting up vehicle-washing facilities. Chemical decontamination equipment can be used to facilitate the removal of mud from the undercarriage of vehicles.

SALMONELLA OUTBREAK

SITUATION: Doctors at the DREAR in Slavonski Brod treated at least 67 soldiers who displayed the symptoms of food-borne gastroenteritis. Doctors confirmed at least nine cases of Salmonella based on positive lab results.

DISCUSSION: Salmonellosis is a bacterial disease. It is classified as a food-borne disease because contaminated food, mainly of animal origin, is the predominant mode of transmission. There are approximately 2,000 types of Salmonellosis, but the two most commonly reported are Salmonella typhimurium and Salmonella enteritidis.

Soldiers contract the disease by eating food that contains the Salmonella bacteria. Salmonella bacteria are commonly found in raw and undercooked eggs and egg products, raw milk and raw milk products, contaminated water, meat and meat products, and poultry and poultry products. Symptoms include the sudden onset of headache, abdominal pain, diarrhea, nausea and sometimes vomiting. Dehydration may be severe. Fever is almost always present. Deaths are uncommon.

The dining facility may be implicated in the outbreak. It was suspect because the dining facility recently changed from a tent location over to hard billet location. The new food service manager found eggs in an unrefrigerated conex. Cooks had used the eggs to prepare meals up until their discovery by the food service manager. He ordered the eggs to be thrown away. Chicken was also implicated in the incident. Many infected people had eaten chicken prior to developing symptoms.

Policy and standards were set, but not maintained.

☛ TTP!!!:

- **The TFE policy on cooking eggs is that they will be cooked hard and not as a mass batch. Cooks should not batch-cook eggs. Eggs are to be fried hard or scrambled; hard is best. Boiled eggs are considered safe as long as the eggshell is not cracked. Soldiers should avoid consuming raw or undercooked meat, poultry, and egg products.**
- **Food service managers need to educate their food handlers and cooks on the importance of sanitation, especially handwashing. This is especially true when local nationals are used instead of properly trained soldiers. Proper food storage is essential due to the extreme temperatures at this time of year. Cooks should be trained on the avoidance of possible cross-contamination during food preparation. Placing a food service NCO in the dining facility to supervise and ensure adherence to Army standards is also very beneficial.** ***Note: There is an increased risk with contamination associated with moving to a new dining facility.*** ✪